



CCA GCA ACC AAT GAT GCC CGT T-TAMRA-3'  
CA GCA ACC AAT GAT GCC CGT T-TAMRA-3'

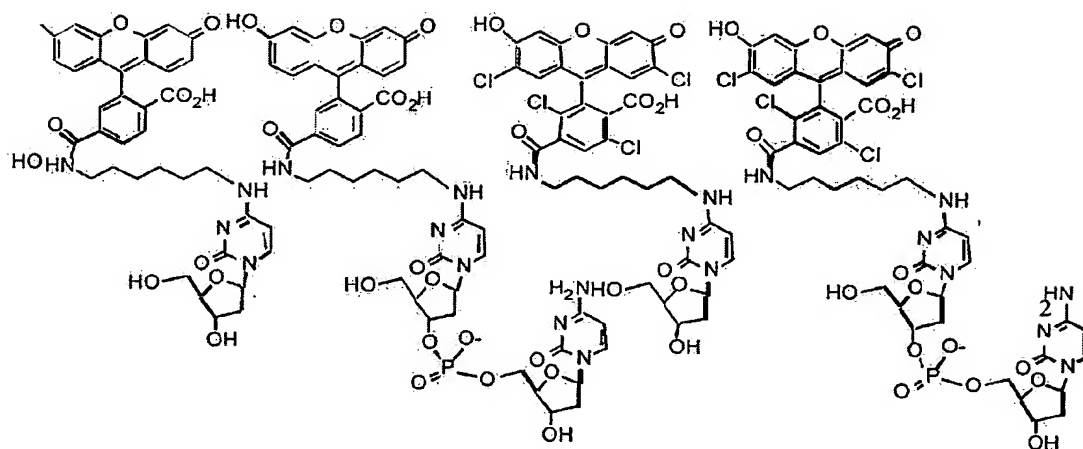
CCA GCA AGC ACT GAT GCC TGT T-TAMRA-3'  
CA GCA AGC ACT GAT GCC TGT T-TAMRA-3'

**Fig. 1A**

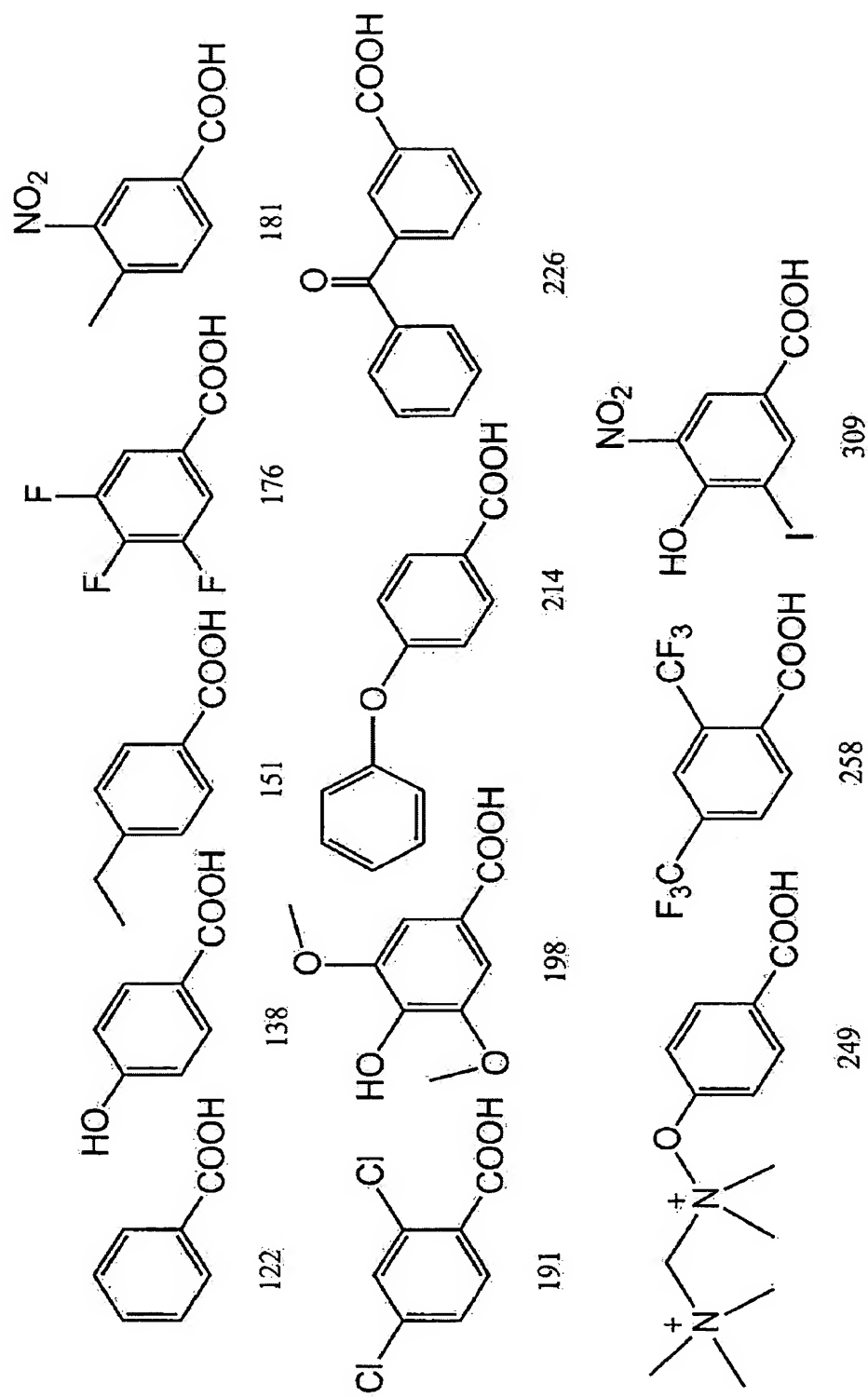
	Fluorescent Dyes	
	<u>Absorbance Maxima</u>	<u>Emission Maxima</u>
Fluorescein	494nm	525nm
Tetrachloro fluorescein	521nm	536nm
TAMRA	565nm	580nm

**Fig. 1B**

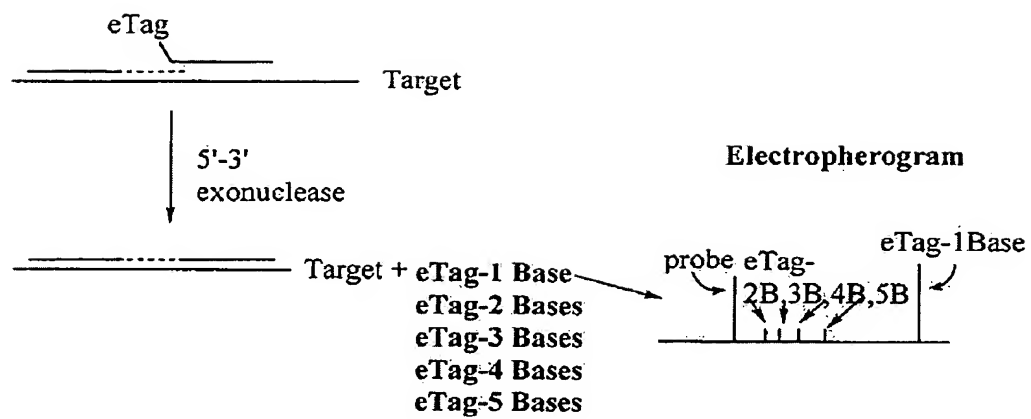
Cleaved Fragments:



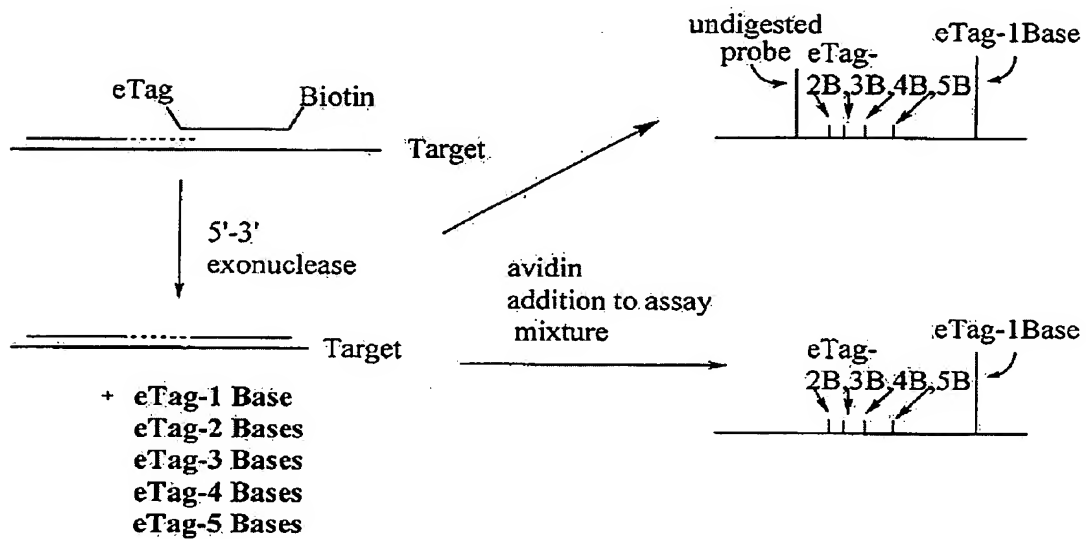
**Fig. 1C**



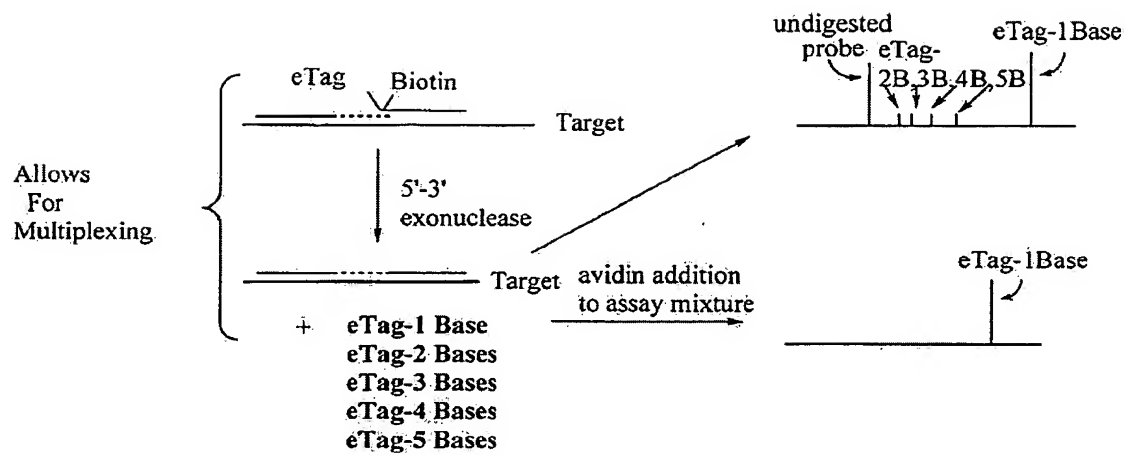
**Fig. 2**



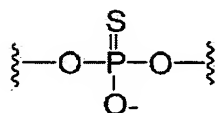
**Fig. 3A**



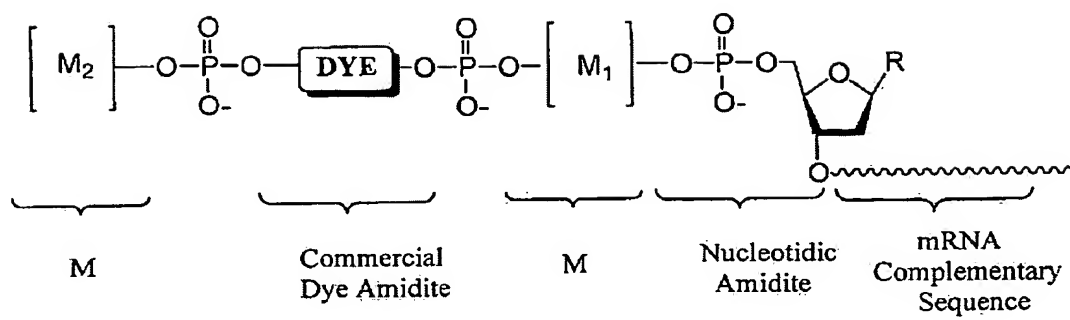
**Fig. 3B**



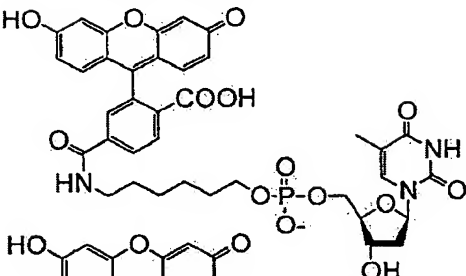
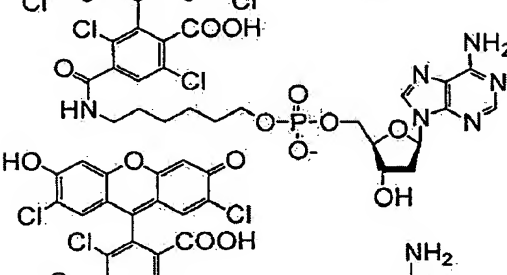
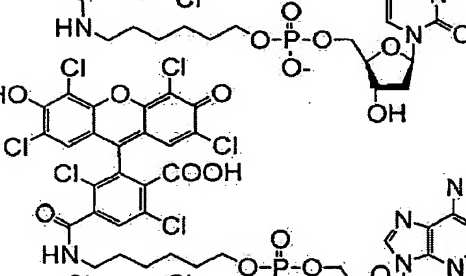
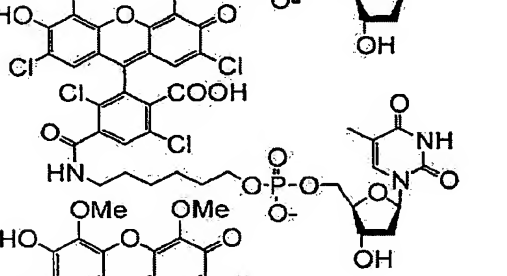
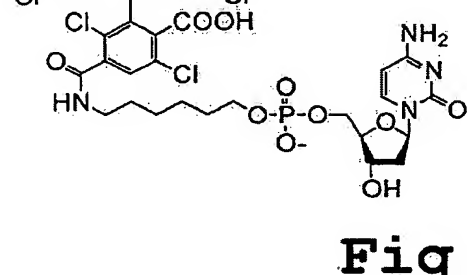

**Fig. 3C**



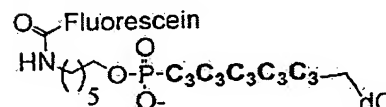
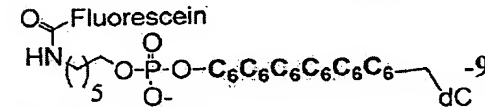
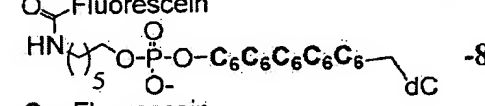
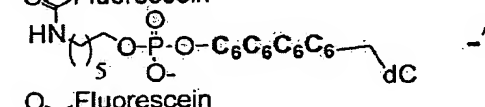
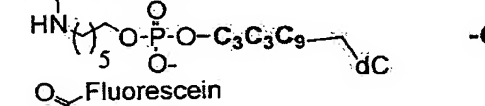
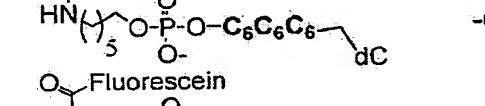
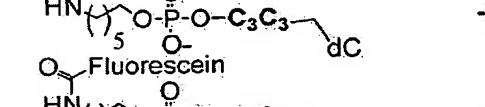
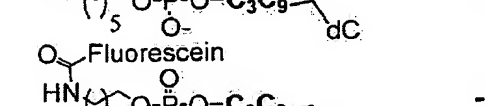
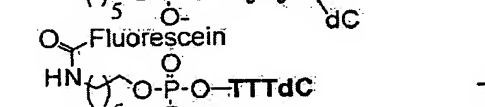
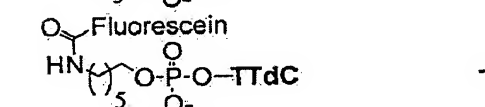
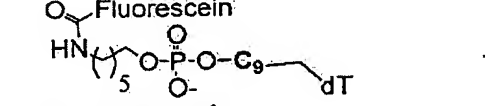
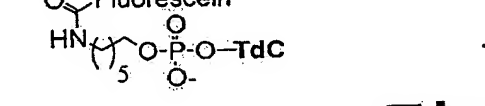

**Fig. 3D**



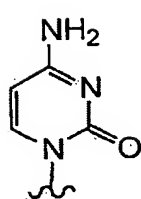
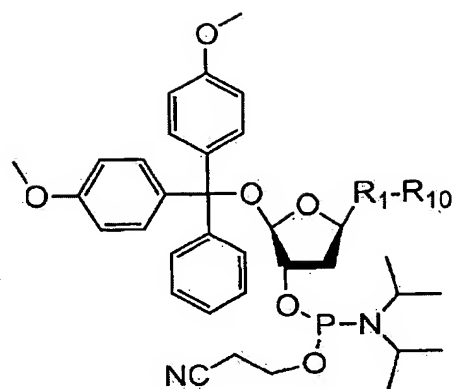
**Fig. 4**

<u>e-tag Reporter</u>	<u>Elution Time on CE, min</u>	<u>Mass</u>
	6.4	778
	7.1	925
	7.3	901
	7.7	994
	8.0	985
	9.25	961

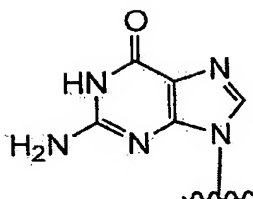
**Fig. 5**

e-tag Reporter	Charge	Elution Time, min
	-8	12.1*
	-9	12.7
	-8	12.8
	-7	13.1
	-6	13.0
	-6	13.4
	-5	12.8*
	-5	13.2*
	-5	14.8
	-6	17.3
	-5	17.0
	-4	15.2*
	-4	16.5

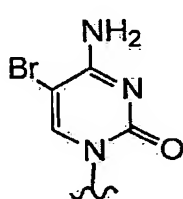
**Fig. 6**



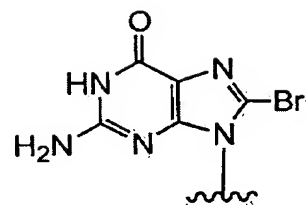
227



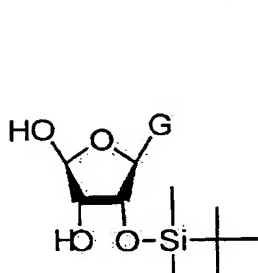
267



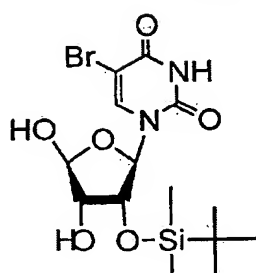
306



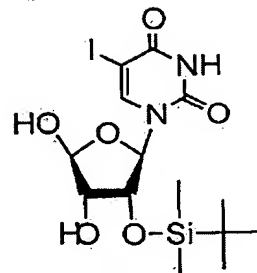
346



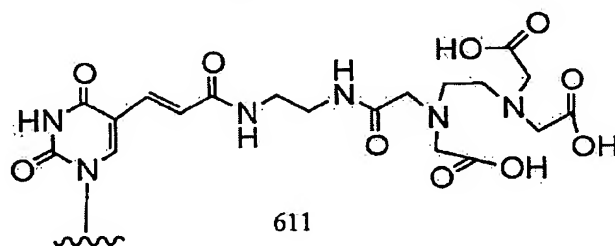
396



436



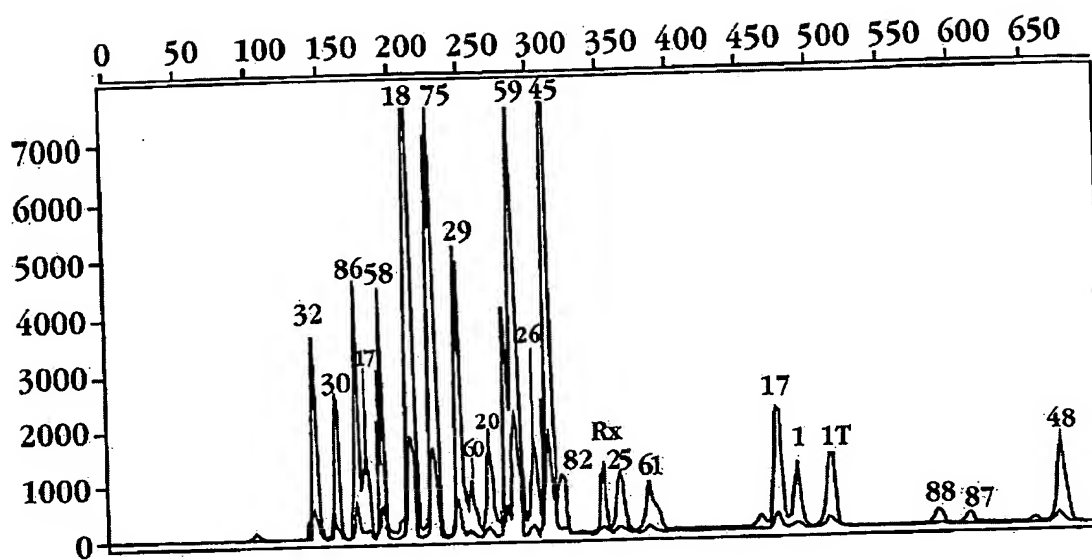
484



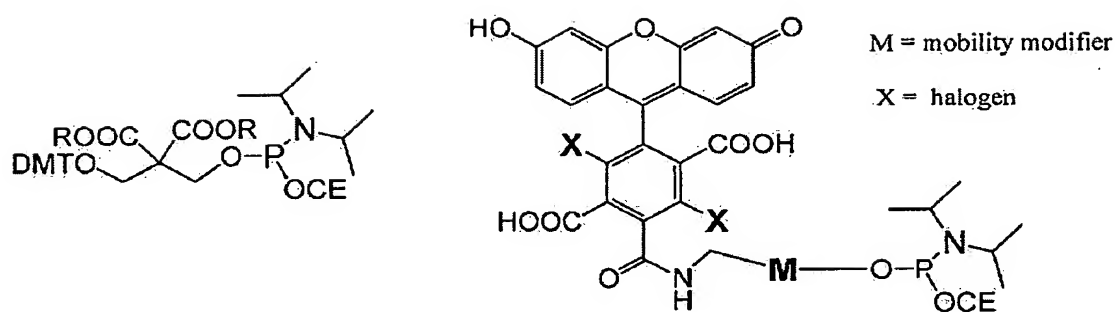
611

**Fig. 7**

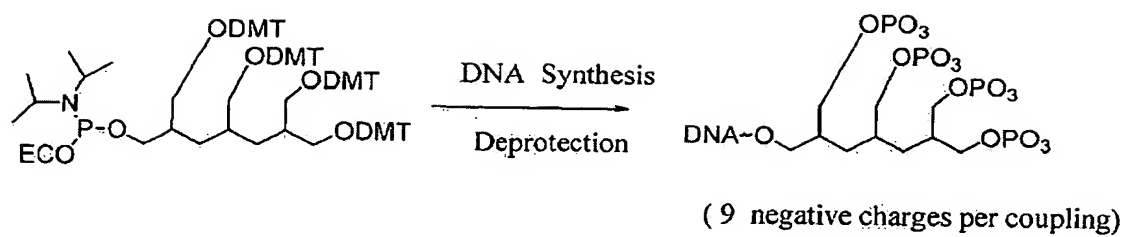




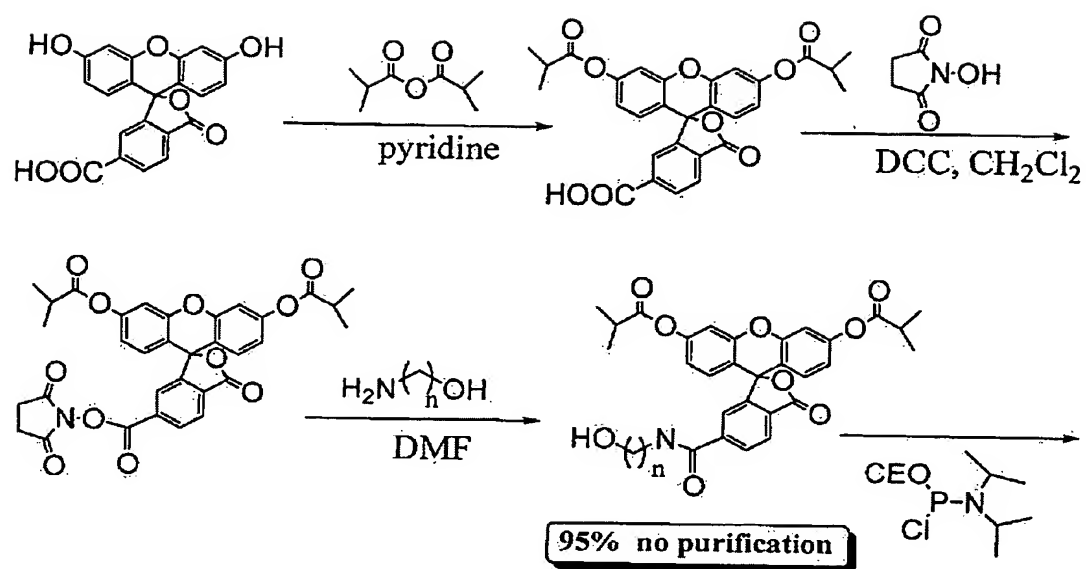
**Fig. 8**



**Fig. 9**



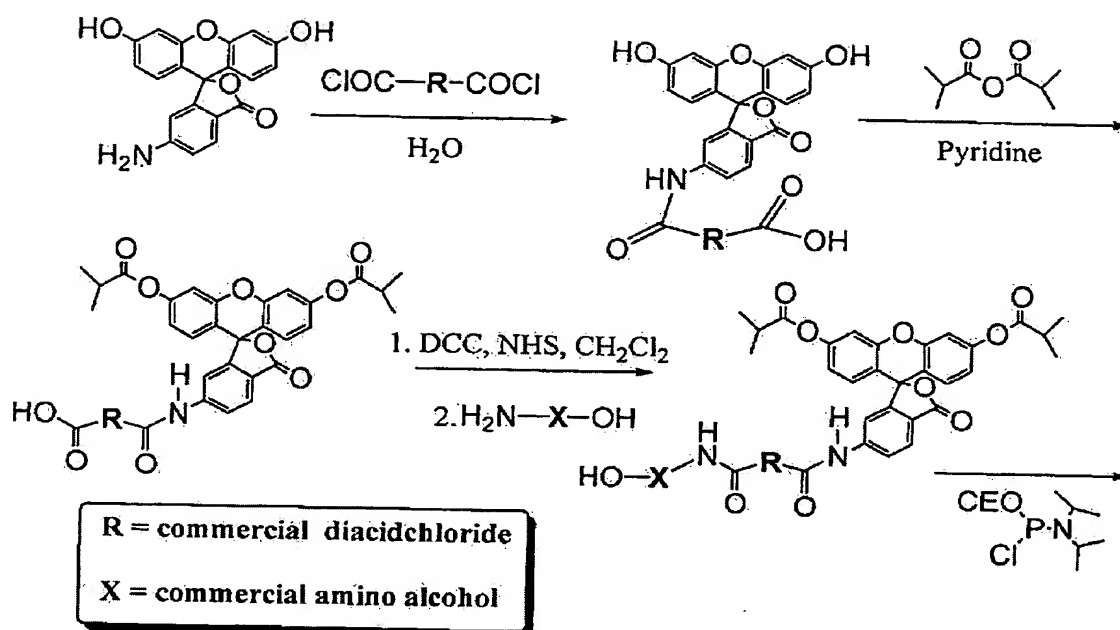
**Fig. 10**



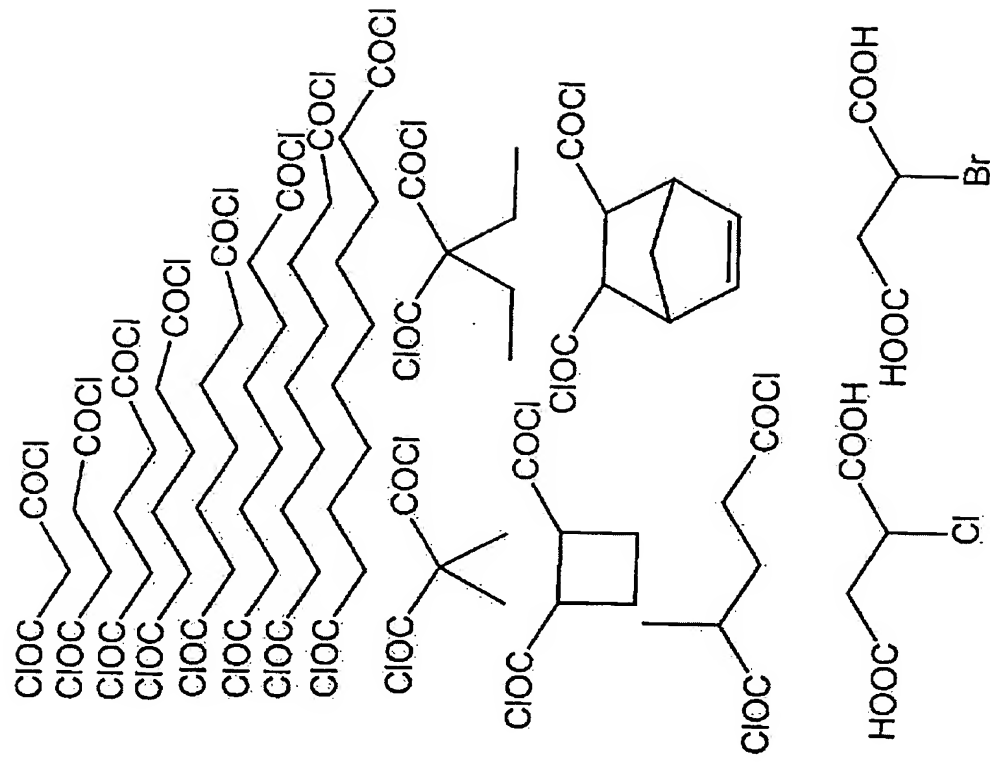
**Fig. 11**



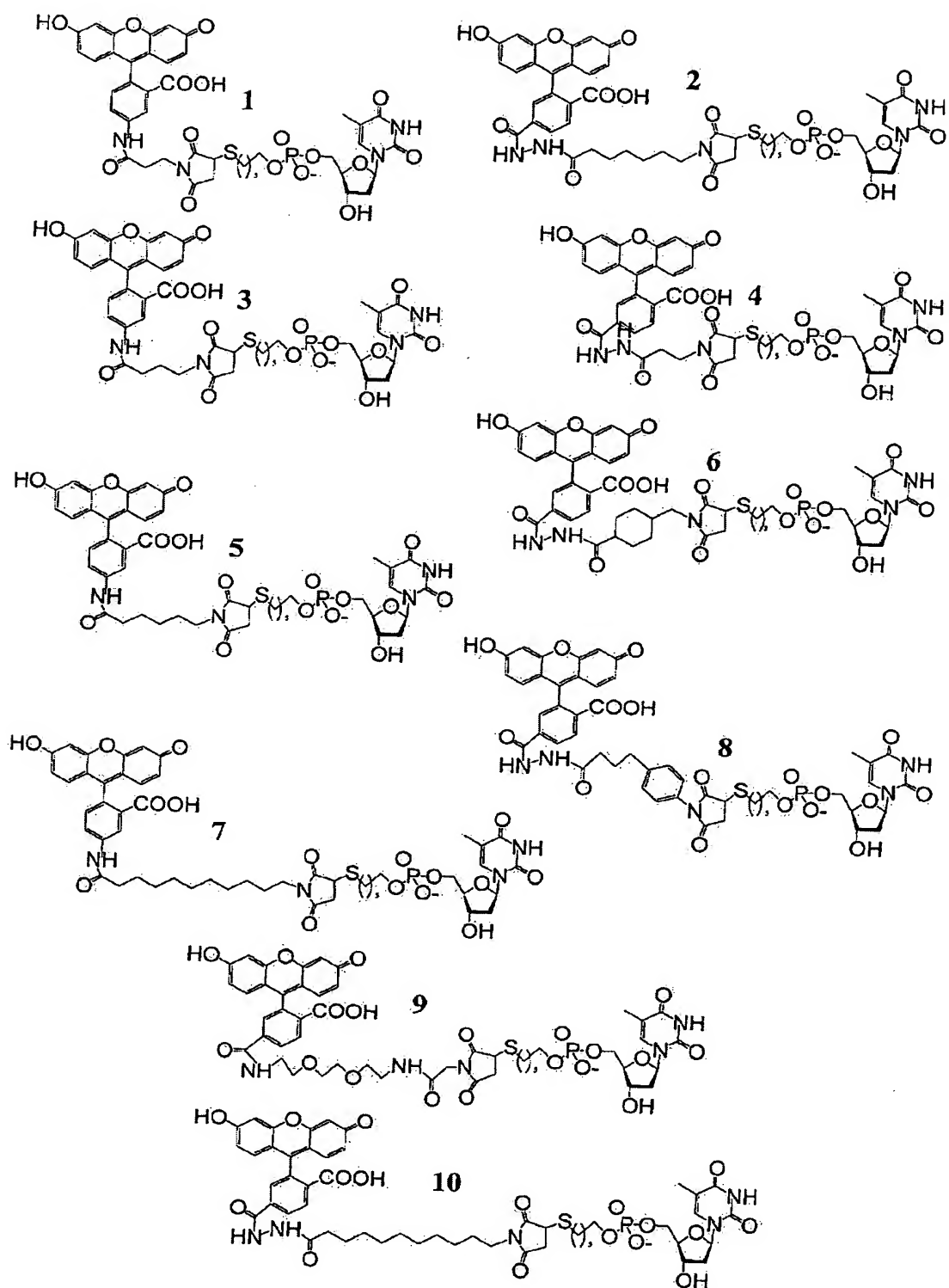
Fig. 12



**Fig. 13**

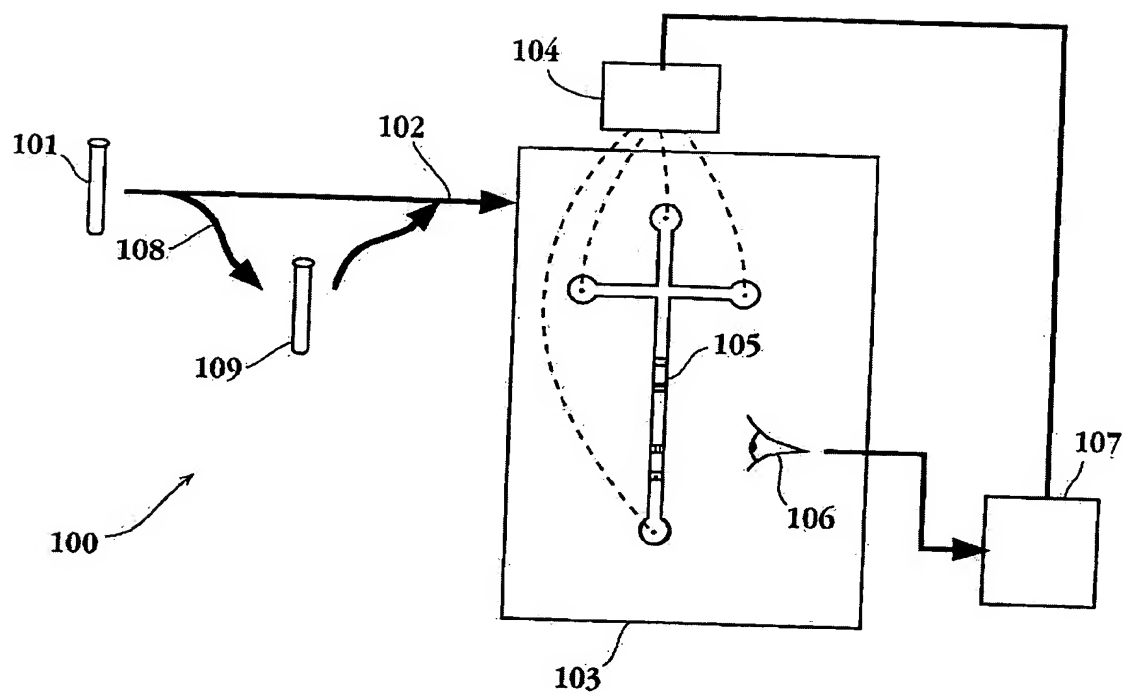


**Fig. 14**



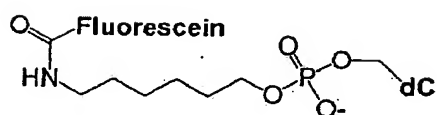
**Fig. 15**



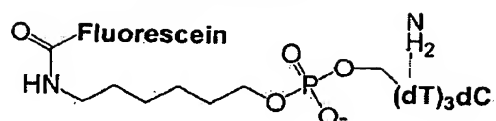


**Fig. 16**

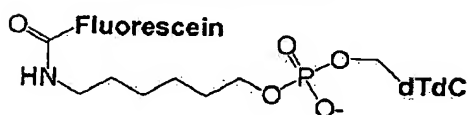
**ACLA001**



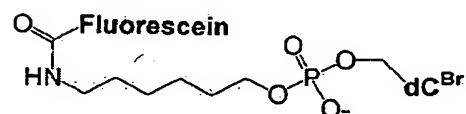
**ACLA007**



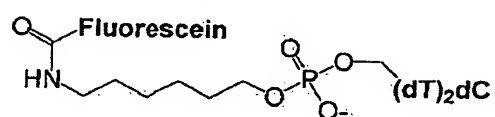
**ACLA002**



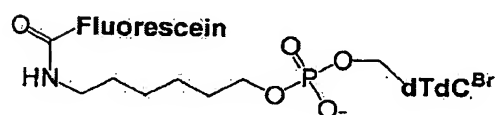
**ACLA008**



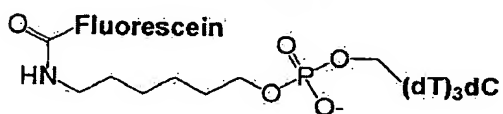
**ACLA003**



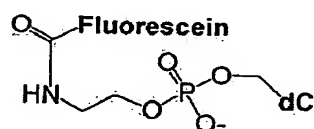
**ACLA009**



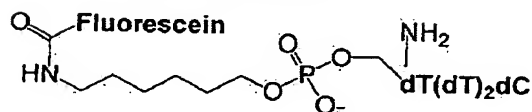
**ACLA004**



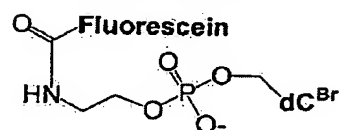
**ACLA010**



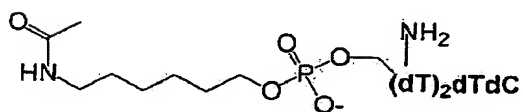
**ACLA005**



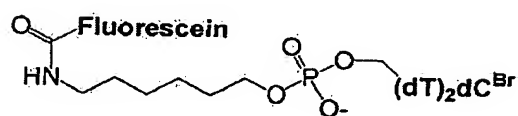
**ACLA011**



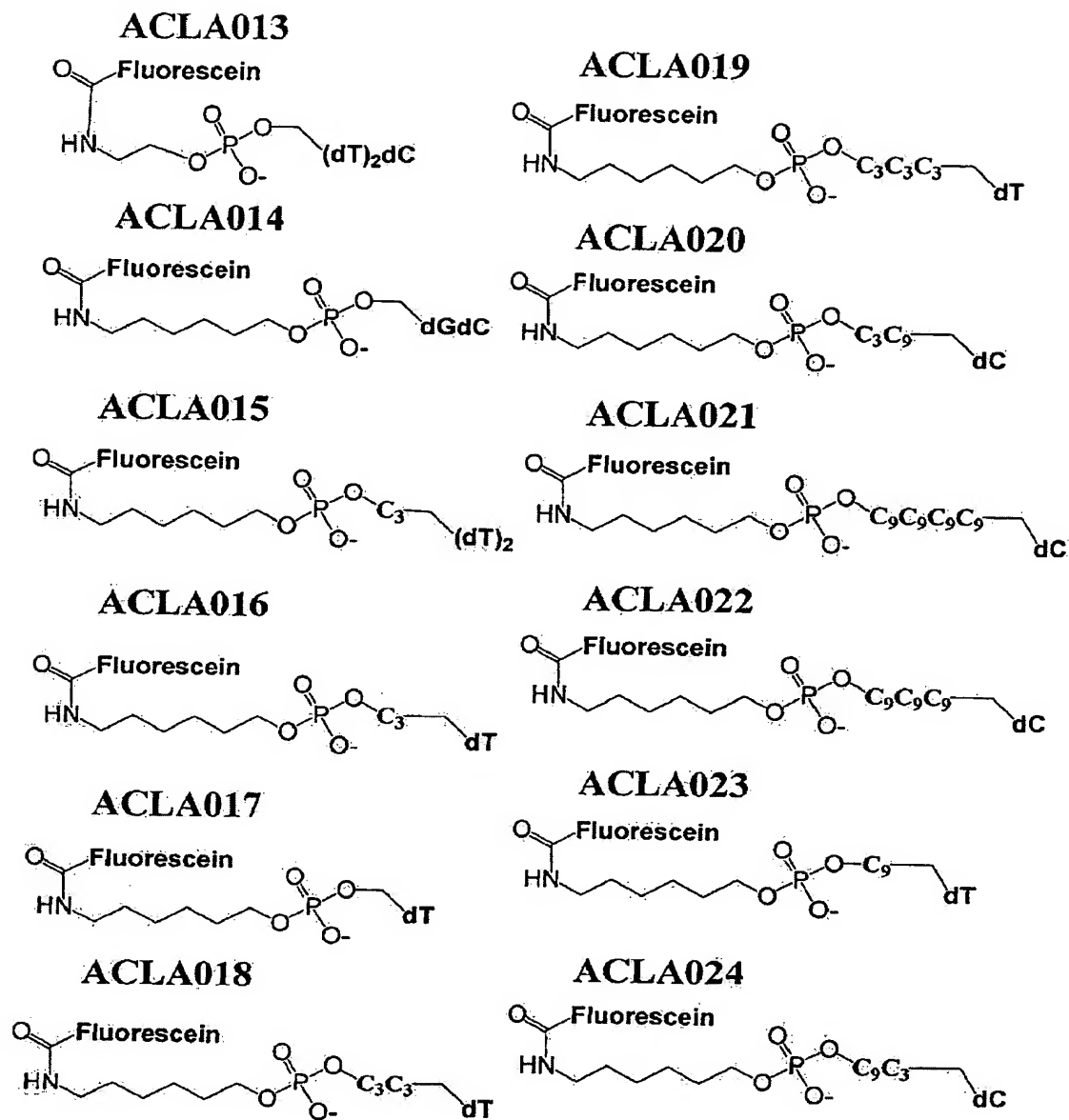
**ACLA006**



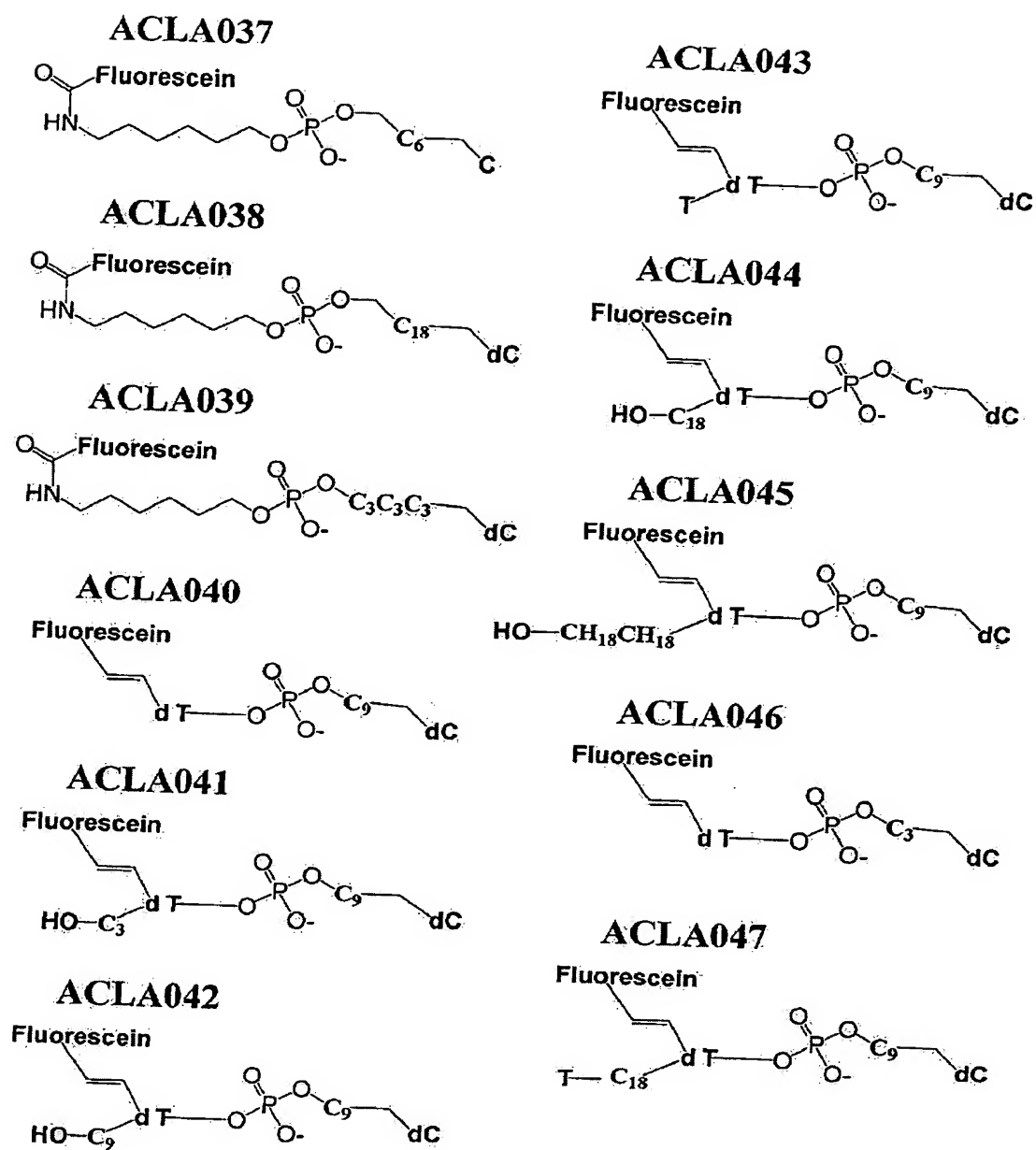
**ACLA012**



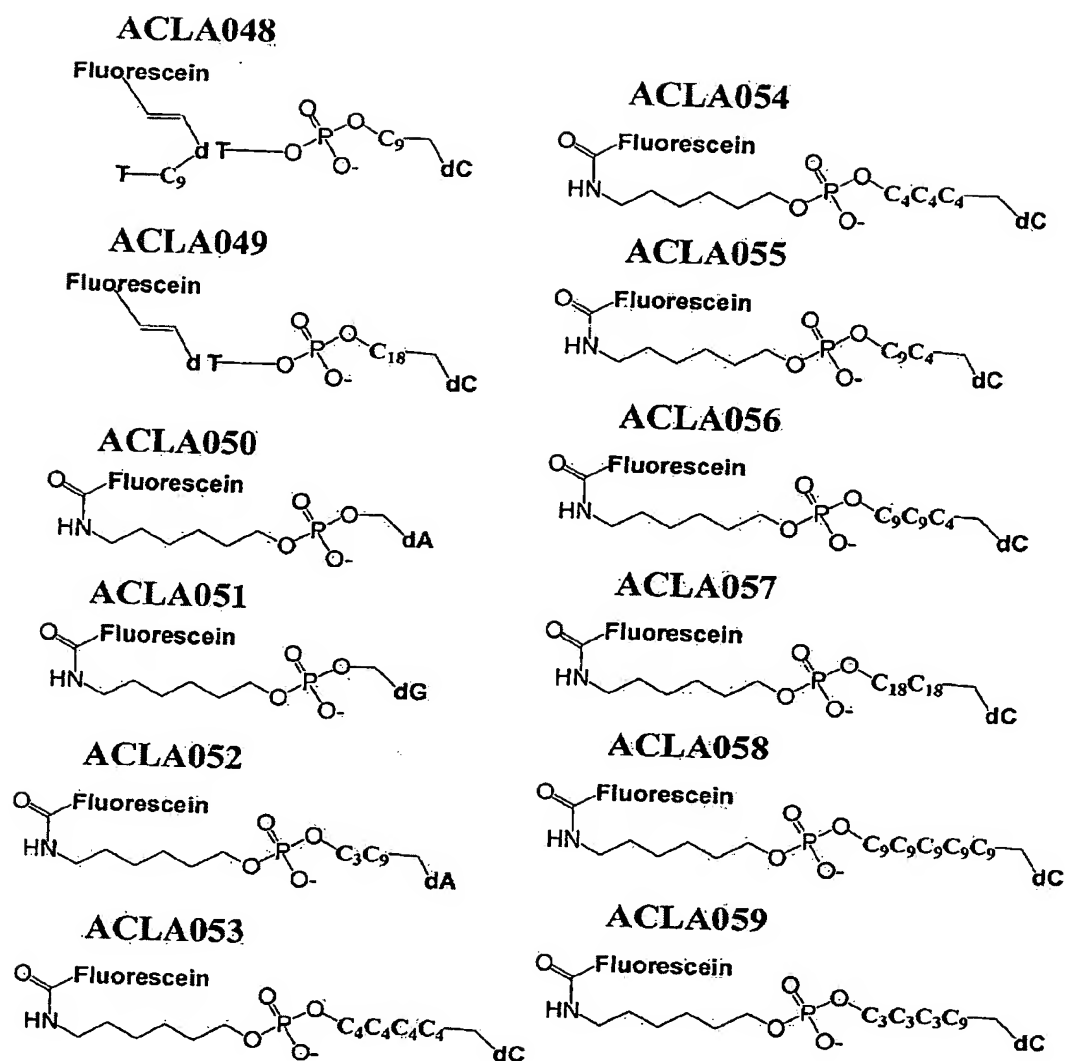
**Fig. 17A**



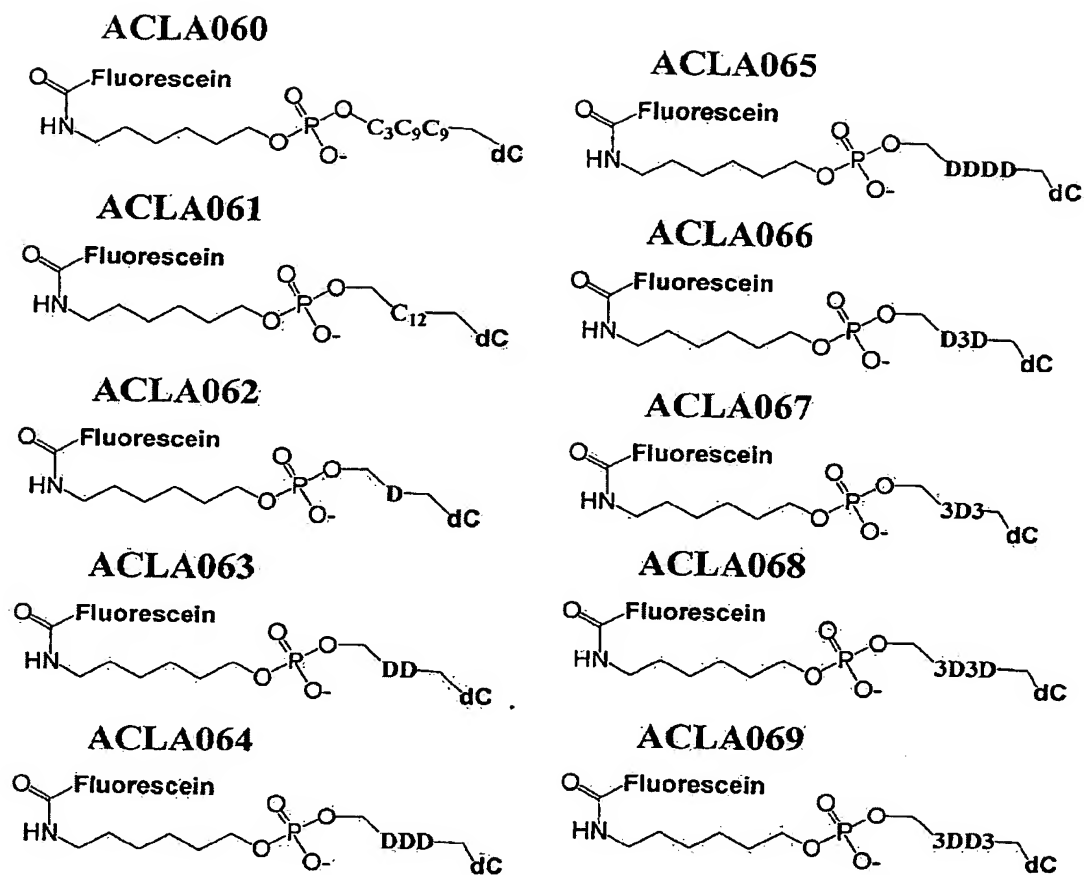
**Fig. 17B**



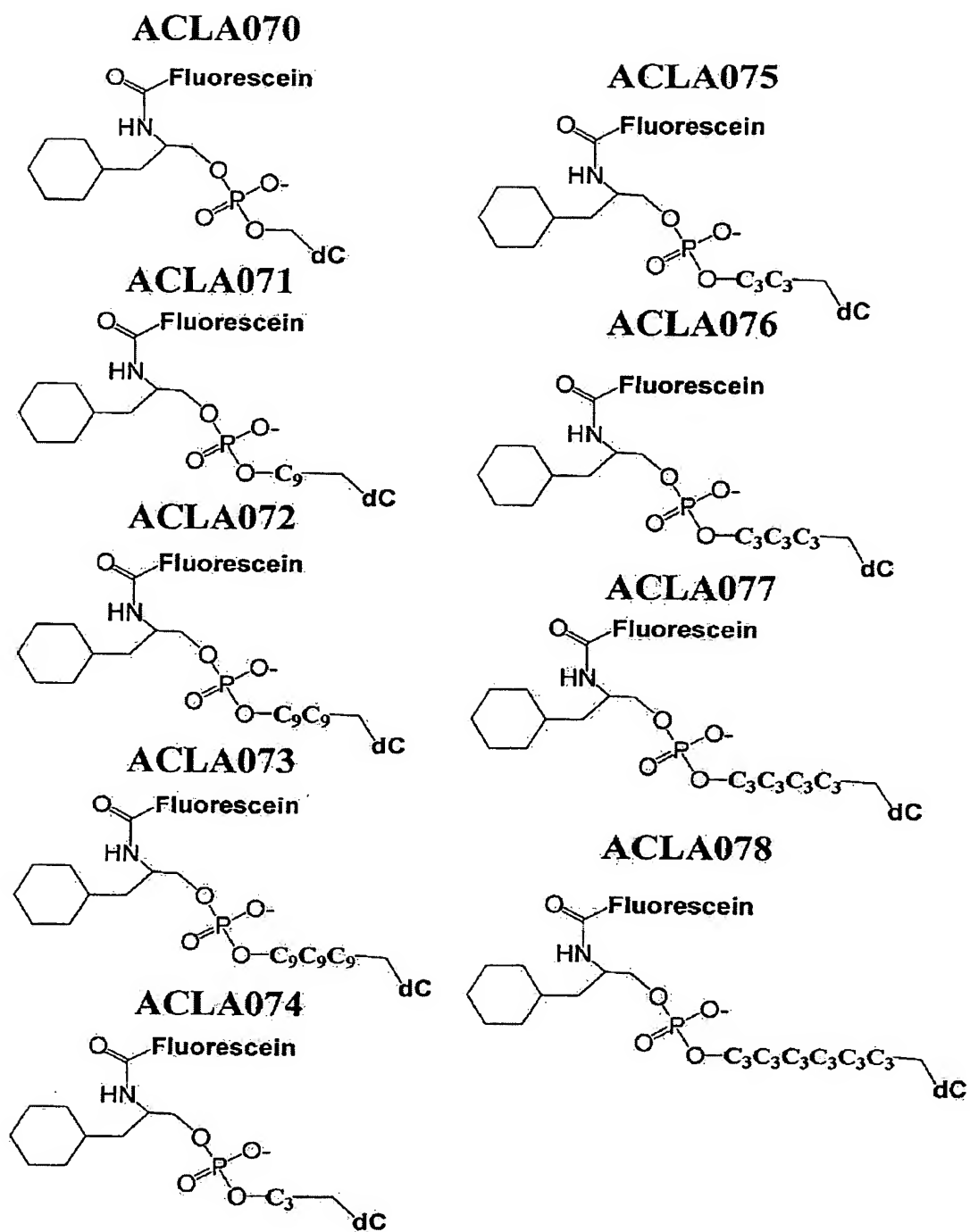
**Fig. 17D**



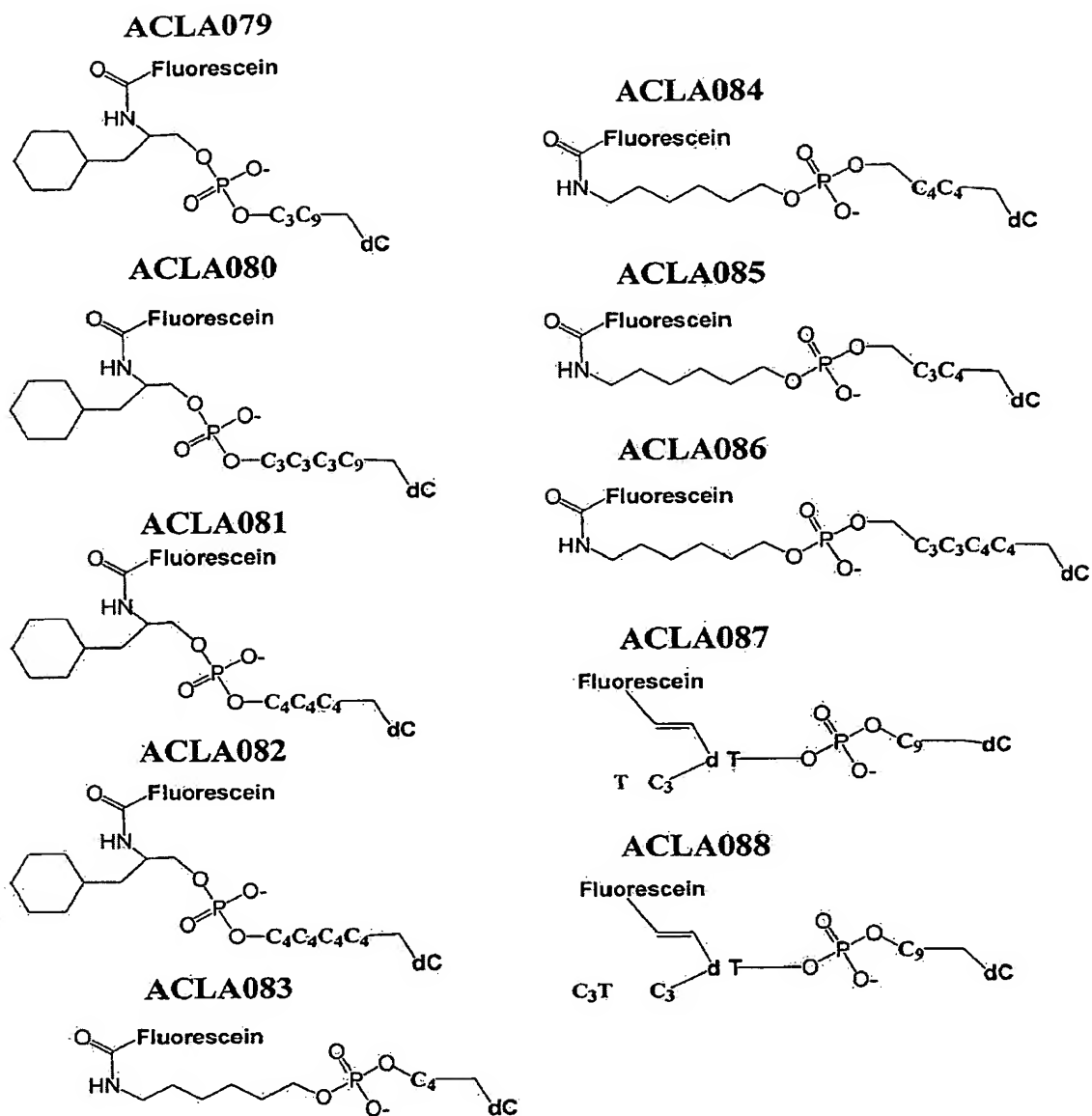
**Fig. 17E**



**Fig. 17F**



**Fig. 17G**



**Fig. 17H**



[illegible]Cc1ccc(cc1)C2=CC(=C(C=C2)C(=O)O)C3=CC(=C(C=C3)C(=O)O)C4=CC(=C(C=C4)C(=O)O)C5=CC(=C(C=C5)C(=O)O)C6=CC(=C(C=C6)C(=O)O)C7=CC(=C(C=C7)C(=O)O)C8=CC(=C(C=C8)C(=O)O)C9=CC(=C(C=C9)C(=O)O)C10=CC(=C(C=C10)C(=O)O)C11=CC(=C(C=C11)C(=O)O)C12=CC(=C(C=C12)C(=O)O)C13=CC(=C(C=C13)C(=O)O)C14=CC(=C(C=C14)C(=O)O)C15=CC(=C(C=C15)C(=O)O)C16=CC(=C(C=C16)C(=O)O)C17=CC(=C(C=C17)C(=O)O)C18=CC(=C(C=C18)C(=O)O)C19=CC(=C(C=C19)C(=O)O)C20=CC(=C(C=C20)C(=O)O)C21=CC(=C(C=C21)C(=O)O)C22=CC(=C(C=C22)C(=O)O)C23=CC(=C(C=C23)C(=O)O)C24=CC(=C(C=C24)C(=O)O)C25=CC(=C(C=C25)C(=O)O)C26=CC(=C(C=C26)C(=O)O)C27=CC(=C(C=C27)C(=O)O)C28=CC(=C(C=C28)C(=O)O)C29=CC(=C(C=C29)C(=O)O)C30=CC(=C(C=C30)C(=O)O)C31=CC(=C(C=C31)C(=O)O)C32=CC(=C(C=C32)C(=O)O)C33=CC(=C(C=C33)C(=O)O)C34=CC(=C(C=C34)C(=O)O)C35=CC(=C(C=C35)C(=O)O)C36=CC(=C(C=C36)C(=O)O)C37=CC(=C(C=C37)C(=O)O)C38=CC(=C(C=C38)C(=O)O)C39=CC(=C(C=C39)C(=O)O)C40=CC(=C(C=C40)C(=O)O)C41=CC(=C(C=C41)C(=O)O)C42=CC(=C(C=C42)C(=O)O)C43=CC(=C(C=C43)C(=O)O)C44=CC(=C(C=C44)C(=O)O)C45=CC(=C(C=C45)C(=O)O)C46=CC(=C(C=C46)C(=O)O)C47=CC(=C(C=C47)C(=O)O)C48=CC(=C(C=C48)C(=O)O)C49=CC(=C(C=C49)C(=O)O)C50=CC(=C(C=C50)C(=O)O)C51=CC(=C(C=C51)C(=O)O)C52=CC(=C(C=C52)C(=O)O)C53=CC(=C(C=C53)C(=O)O)C54=CC(=C(C=C54)C(=O)O)C55=CC(=C(C=C55)C(=O)O)C56=CC(=C(C=C56)C(=O)O)C57=CC(=C(C=C57)C(=O)O)C58=CC(=C(C=C58)C(=O)O)C59=CC(=C(C=C59)C(=O)O)C60=CC(=C(C=C60)C(=O)O)C61=CC(=C(C=C61)C(=O)O)C62=CC(=C(C=C62)C(=O)O)C63=CC(=C(C=C63)C(=O)O)C64=CC(=C(C=C64)C(=O)O)C65=CC(=C(C=C65)C(=O)O)C66=CC(=C(C=C66)C(=O)O)C67=CC(=C(C=C67)C(=O)O)C68=CC(=C(C=C68)C(=O)O)C69=CC(=C(C=C69)C(=O)O)C70=CC(=C(C=C70)C(=O)O)C71=CC(=C(C=C71)C(=O)O)C72=CC(=C(C=C72)C(=O)O)C73=CC(=C(C=C73)C(=O)O)C74=CC(=C(C=C74)C(=O)O)C75=CC(=C(C=C75)C(=O)O)C76=CC(=C(C=C76)C(=O)O)C77=CC(=C(C=C77)C(=O)O)C78=CC(=C(C=C78)C(=O)O)C79=CC(=C(C=C79)C(=O)O)C80=CC(=C(C=C80)C(=O)O)C81=CC(=C(C=C81)C(=O)O)C82=CC(=C(C=C82)C(=O)O)C83=CC(=C(C=C83)C(=O)O)C84=CC(=C(C=C84)C(=O)O)C85=CC(=C(C=C85)C(=O)O)C86=CC(=C(C=C86)C(=O)O)C87=CC(=C(C=C87)C(=O)O)C88=CC(=C(C=C88)C(=O)O)C89=CC(=C(C=C89)C(=O)O)C90=CC(=C(C=C90)C(=O)O)C91=CC(=C(C=C91)C(=O)O)C92=CC(=C(C=C92)C(=O)O)C93=CC(=C(C=C93)C(=O)O)C94=CC(=C(C=C94)C(=O)O)C95=CC(=C(C=C95)C(=O)O)C96=CC(=C(C=C96)C(=O)O)C97=CC(=C(C=C97)C(=O)O)C98=CC(=C(C=C98)C(=O)O)C99=CC(=C(C=C99)C(=O)O)C100=CC(=C(C=C100)C(=O)O)C101=CC(=C(C=C101)C(=O)O)C102=CC(=C(C=C102)C(=O)O)C103=CC(=C(C=C103)C(=O)O)C104=CC(=C(C=C104)C(=O)O)C105=CC(=C(C=C105)C(=O)O)C106=CC(=C(C=C106)C(=O)O)C107=CC(=C(C=C107)C(=O)O)C108=CC(=C(C=C108)C(=O)O)C109=CC(=C(C=C109)C(=O)O)C110=CC(=C(C=C110)C(=O)O)C111=CC(=C(C=C111)C(=O)O)C112=CC(=C(C=C112)C(=O)O)C113=CC(=C(C=C113)C(=O)O)C114=CC(=C(C=C114)C(=O)O)C115=CC(=C(C=C115)C(=O)O)C116=CC(=C(C=C116)C(=O)O)C117=CC(=C(C=C117)C(=O)O)C118=CC(=C(C=C118)C(=O)O)C119=CC(=C(C=C119)C(=O)O)C120=CC(=C(C=C120)C(=O)O)C121=CC(=C(C=C121)C(=O)O)C122=CC(=C(C=C122)C(=O)O)C123=CC(=C(C=C123)C(=O)O)C124=CC(=C(C=C124)C(=O)O)C125=CC(=C(C=C125)C(=O)O)C126=CC(=C(C=C126)C(=O)O)C127=CC(=C(C=C127)C(=O)O)C128=CC(=C(C=C128)C(=O)O)C129=CC(=C(C=C129)C(=O)O)C130=CC(=C(C=C130)C(=O)O)C131=CC(=C(C=C131)C(=O)O)C132=CC(=C(C=C132)C(=O)O)C133=CC(=C(C=C133)C(=O)O)C134=CC(=C(C=C134)C(=O)O)C135=CC(=C(C=C135)C(=O)O)C136=CC(=C(C=C136)C(=O)O)C137=CC(=C(C=C137)C(=O)O)C138=CC(=C(C=C138)C(=O)O)C139=CC(=C(C=C139)C(=O)O)C140=CC(=C(C=C140)C(=O)O)C141=CC(=C(C=C141)C(=O)O)C142=CC(=C(C=C142)C(=O)O)C143=CC(=C(C=C143)C(=O)O)C144=CC(=C(C=C144)C(=O)O)C145=CC(=C(C=C145)C(=O)O)C146=CC(=C(C=C146)C(=O)O)C147=CC(=C(C=C147)C(=O)O)C148=CC(=C(C=C148)C(=O)O)C149=CC(=C(C=C149)C(=O)O)C150=CC(=C(C=C150)C(=O)O)C151=CC(=C(C=C151)C(=O)O)C152=CC(=C(C=C152)C(=O)O)C153=CC(=C(C=C153)C(=O)O)C154=CC(=C(C=C154)C(=O)O)C155=CC(=C(C=C155)C(=O)O)C156=CC(=C(C=C156)C(=O)O)C157=CC(=C(C=C157)C(=O)O)C158=CC(=C(C=C158)C(=O)O)C159=CC(=C(C=C159)C(=O)O)C160=CC(=C(C=C160)C(=O)O)C161=CC(=C(C=C161)C(=O)O)C162=CC(=C(C=C162)C(=O)O)C163=CC(=C(C=C163)C(=O)O)C164=CC(=C(C=C164)C(=O)O)C165=CC(=C(C=C165)C(=O)O)C166=CC(=C(C=C166)C(=O)O)C167=CC(=C(C=C167)C(=O)O)C168=CC(=C(C=C168)C(=O)O)C169=CC(=C(C=C169)C(=O)O)C170=CC(=C(C=C170)C(=O)O)C171=CC(=C(C=C171)C(=O)O)C172=CC(=C(C=C172)C(=O)O)C173=CC(=C(C=C173)C(=O)O)C174=CC(=C(C=C174)C(=O)O)C175=CC(=C(C=C175)C(=O)O)C176=CC(=C(C=C176)C(=O)O)C177=CC(=C(C=C177)C(=O)O)C178=CC(=C(C=C178)C(=O)O)C179=CC(=C(C=C179)C(=O)O)C180=CC(=C(C=C180)C(=O)O)C181=CC(=C(C=C181)C(=O)O)C182=CC(=C(C=C182)C(=O)O)C183=CC(=C(C=C183)C(=O)O)C184=CC(=C(C=C184)C(=O)O)C185=CC(=C(C=C185)C(=O)O)C186=CC(=C(C=C186)C(=O)O)C187=CC(=C(C=C187)C(=O)O)C188=CC(=C(C=C188)C(=O)O)C189=CC(=C(C=C189)C(=O)O)C190=CC(=C(C=C190)C(=O)O)C191=CC(=C(C=C191)C(=O)O)C192=CC(=C(C=C192)C(=O)O)C193=CC(=C(C=C193)C(=O)O)C194=CC(=C(C=C194)C(=O)O)C195=CC(=C(C=C195)C(=O)O)C196=CC(=C(C=C196)C(=O)O)C197=CC(=C

Chemical structure of the fluorophore-labeled DNA probe: Fluorescein-C<sub>12</sub>T-dT-O-P(=O)(O<sup>-</sup>)-O-C<sub>9</sub>-dC.

[illegible]

Fluorescein

C<sub>12</sub> C<sub>12</sub> dT O=P(O<sup>-</sup>)O-C<sub>9</sub>-dC

O=C(NCc1ccccc1)COP(=O)([O-])OCC

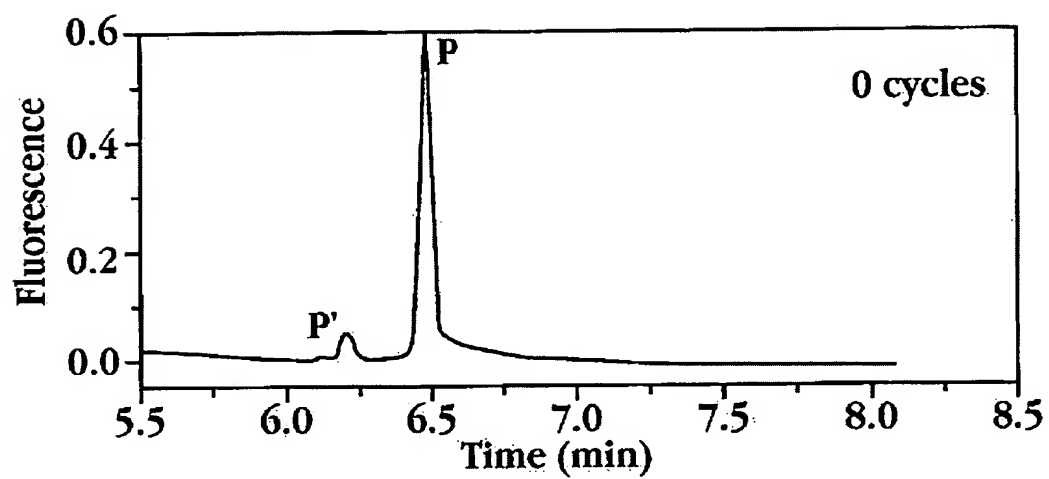
Chemical structure of the fluorescent lipid probe Fluorescein-12-DC. The structure shows a fluorescein moiety (a xanthene ring system with a sulfonate group) attached to a 12-decanoyl chain (labeled DC) via an amide linkage.

**Fig. 17I**

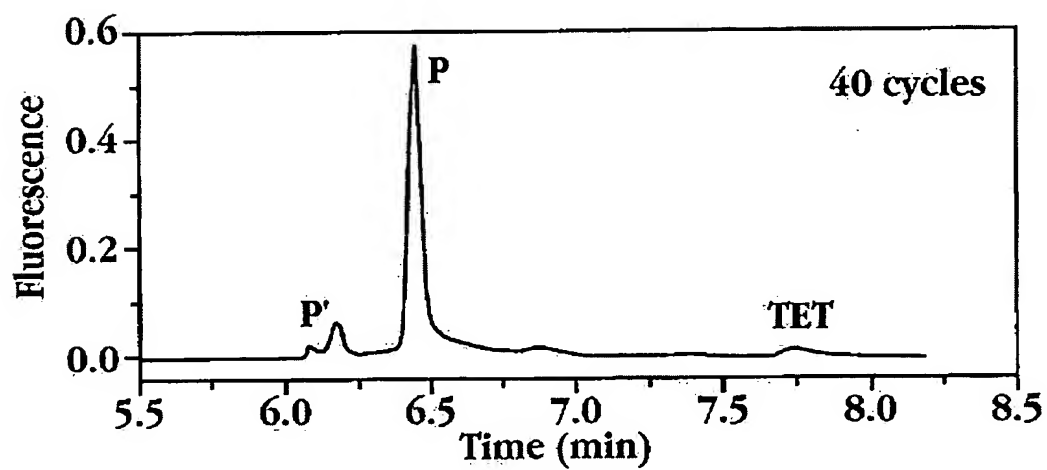
**ET-ACLA0**

The chemical structure of ET-ACLA0 is a complex molecule. It features a central pyrazole ring system. One substituent on the pyrazole is a 4-(4-chloro-2-hydroxy-6-(4-chloro-2,4,6-trichloro-5-hydroxyphenyl)-5-oxocyclopenta-1,3-dien-1-yl)-2,4,6-trichloro-5-hydroxyphenyl group. Another substituent is a 4-(4-chloro-2-hydroxy-6-(4-chloro-2,4,6-trichloro-5-hydroxyphenyl)-5-oxocyclopenta-1,3-dien-1-yl)-2,4,6-trichloro-5-hydroxyphenyl group. The molecule also contains several phosphate groups and various other functional groups, including a carboxylic acid and a hydroxyl group.

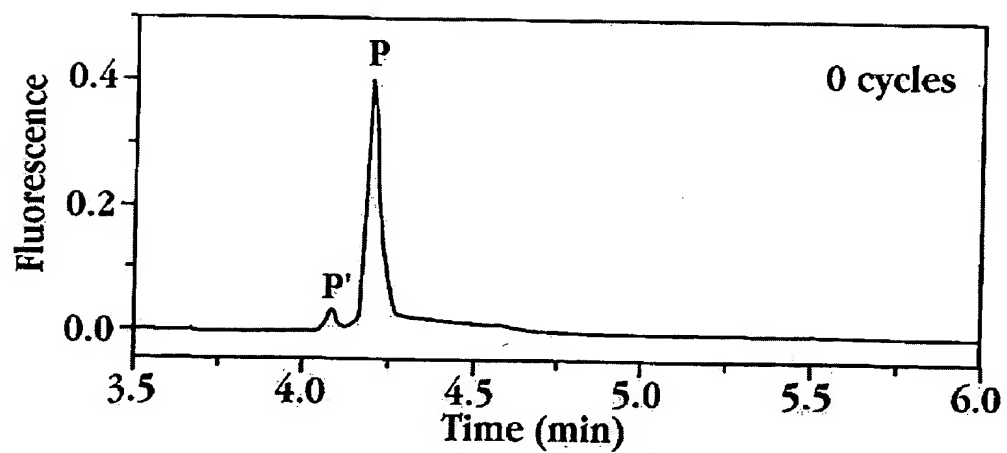
**Fig. 17J**



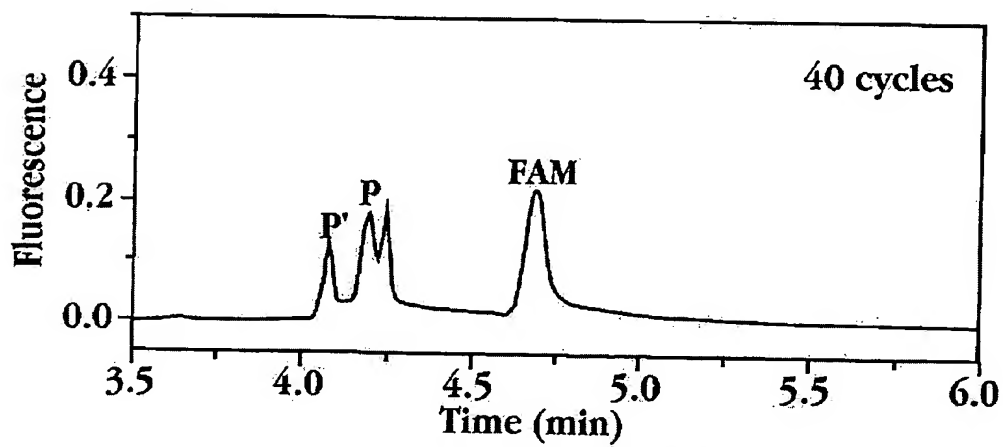
**Fig. 18A**



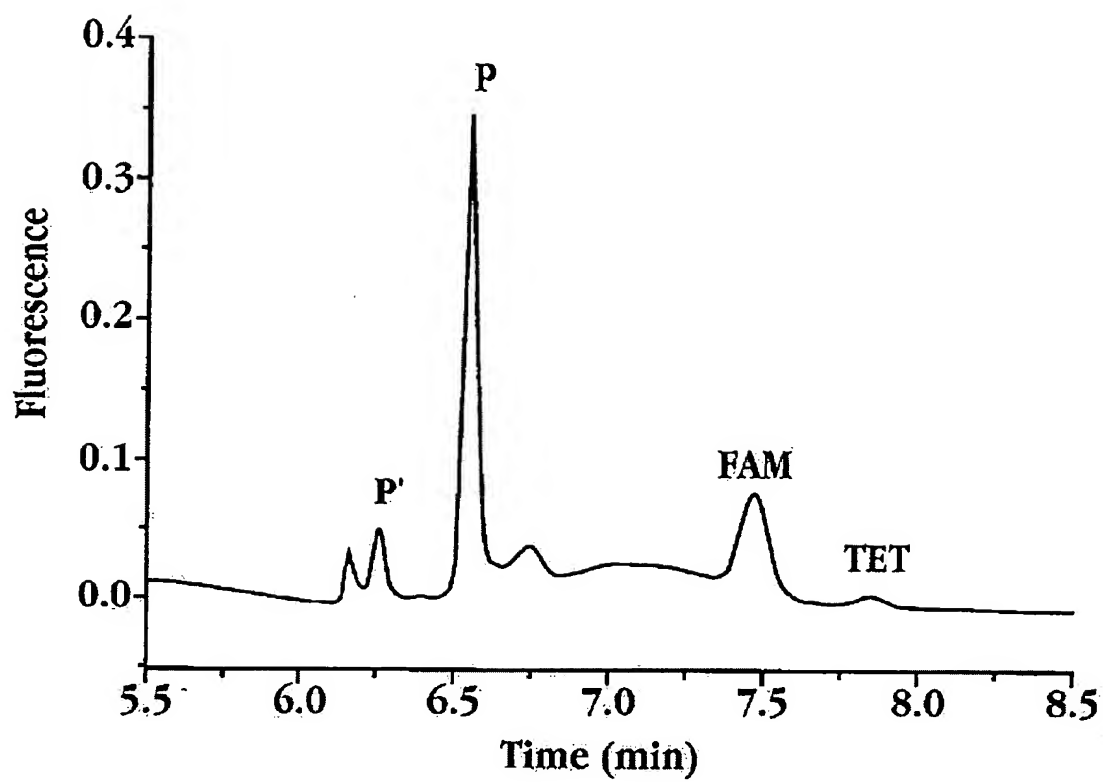
**Fig. 18B**



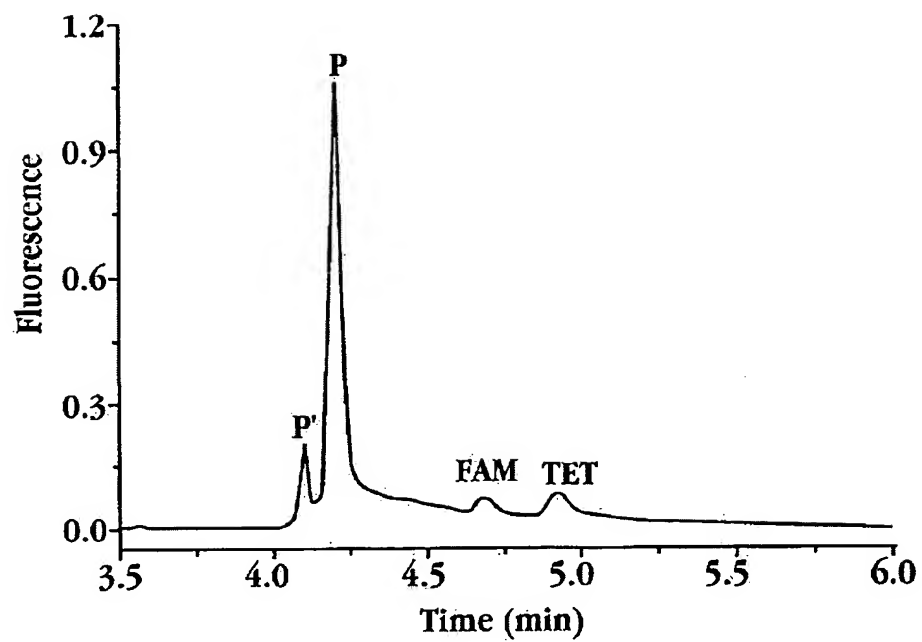
**Fig. 19A**



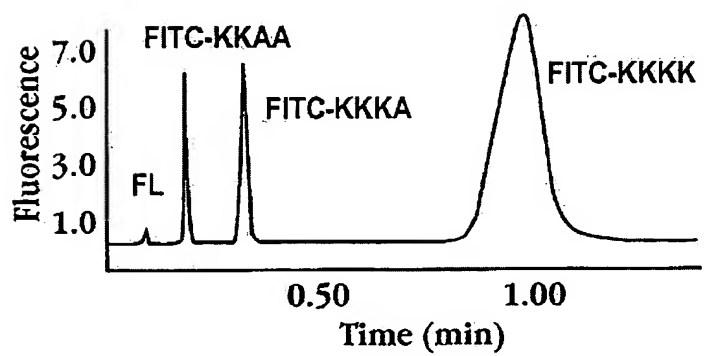
**Fig. 19B**



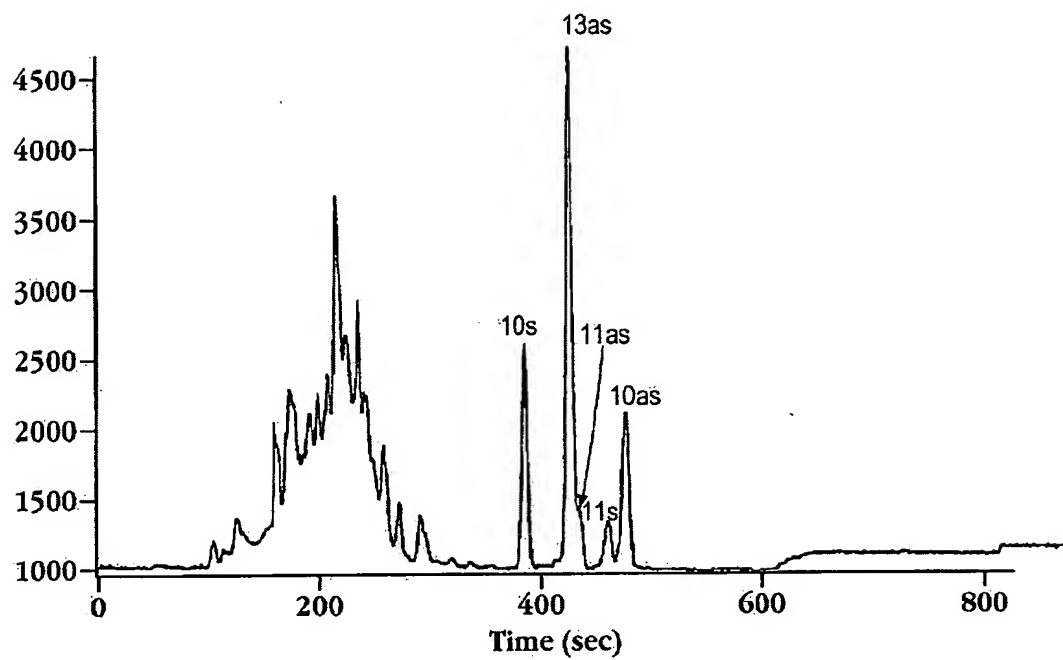
**Fig. 20**



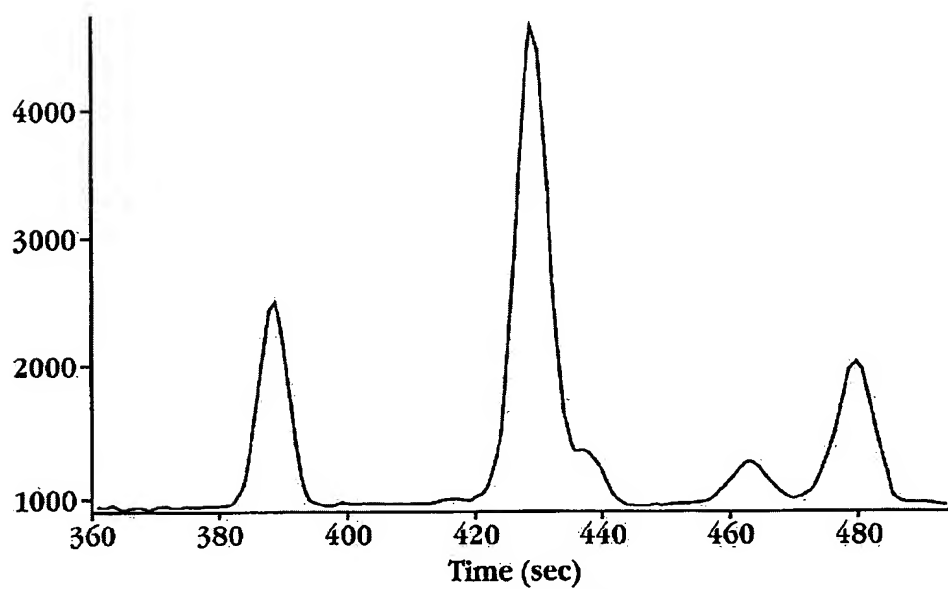
**Fig. 21**



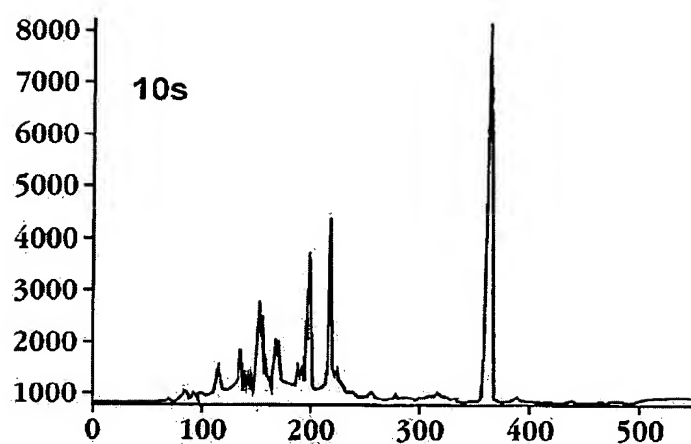
**Fig. 22**



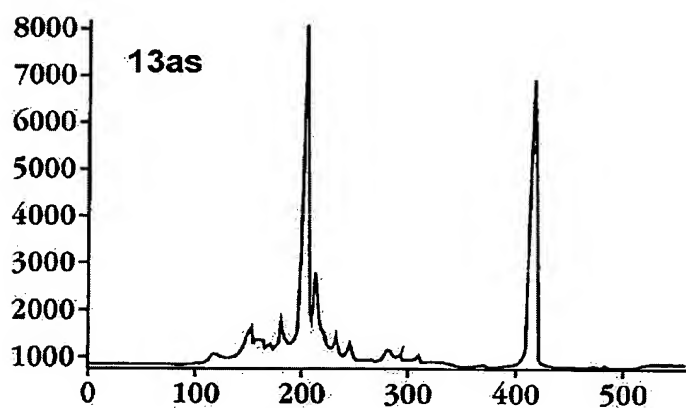
**Fig. 23A**



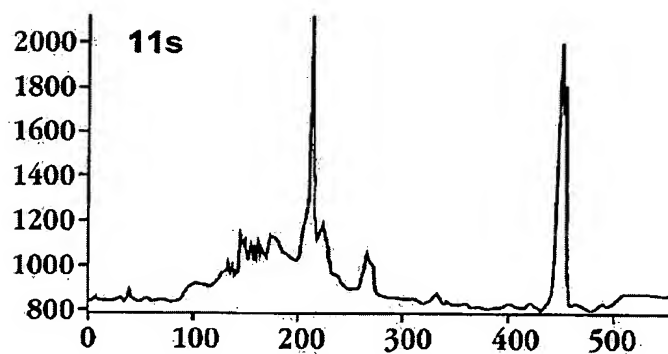
**Fig. 23B**



**Fig. 23C**

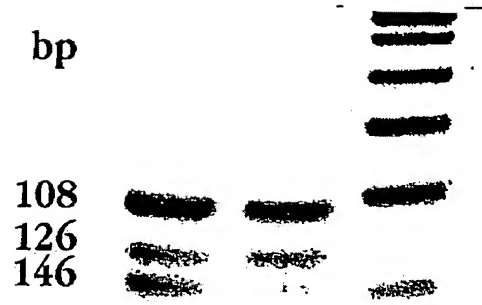


**Fig. 23D**

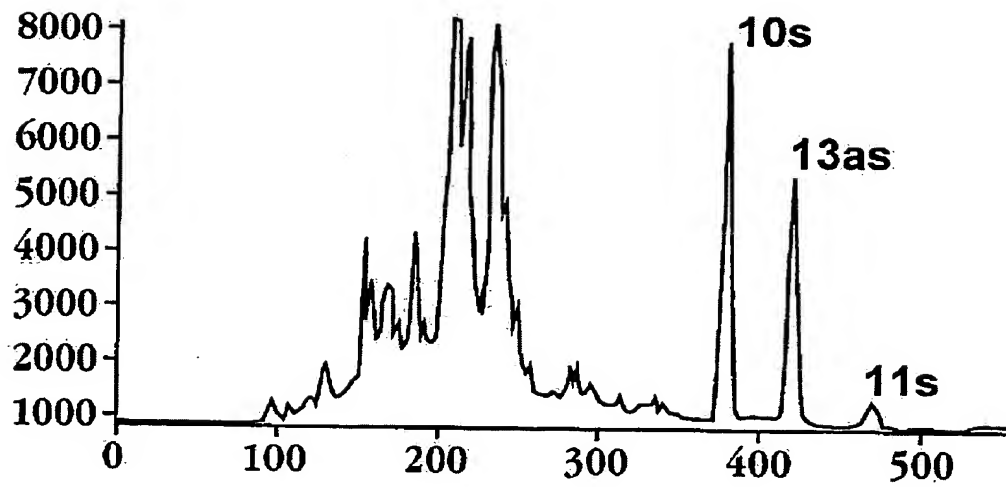


**Fig. 23E**

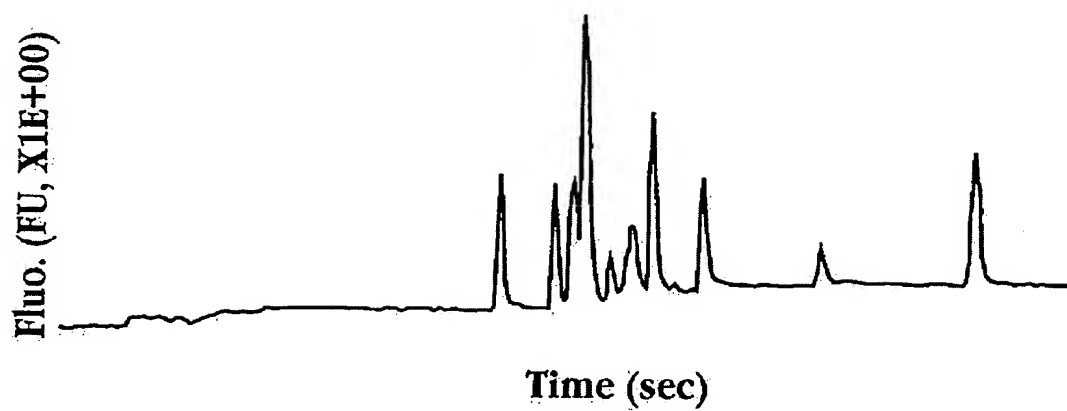




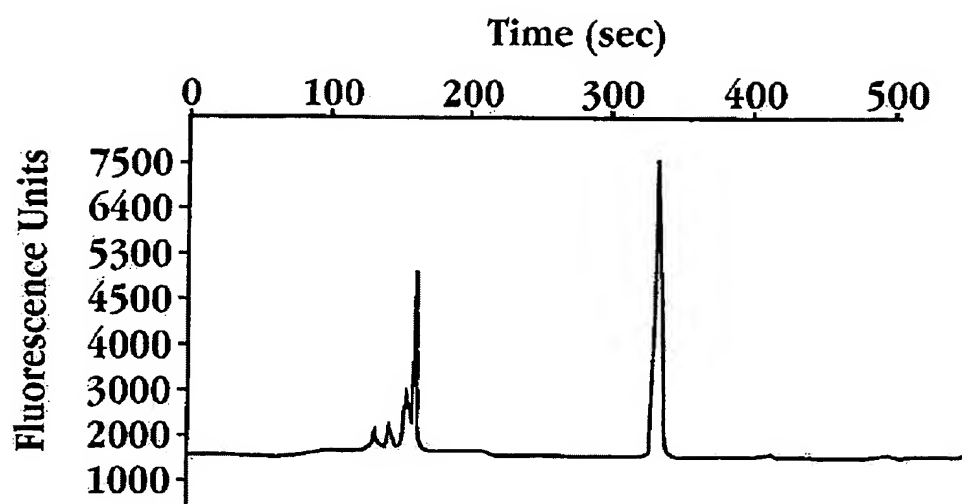
**Fig. 23F**



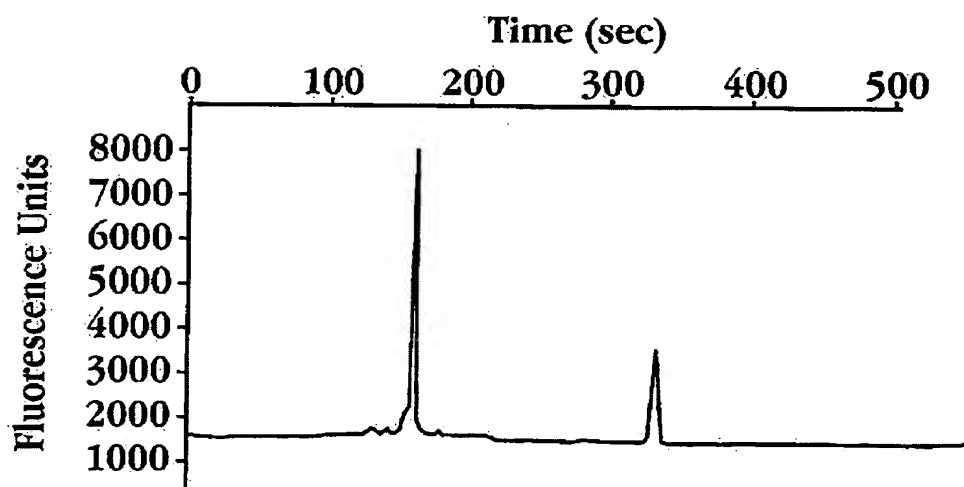
**Fig. 23G**



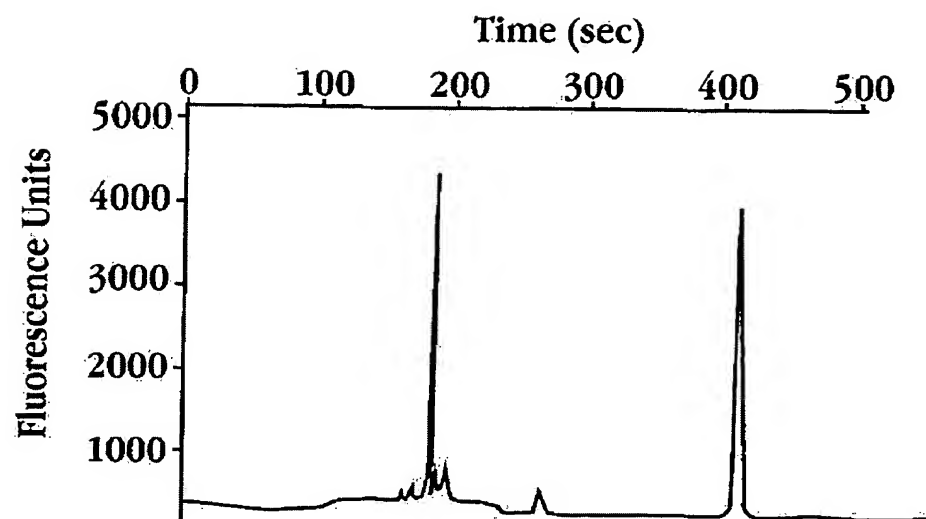
**Fig. 24**



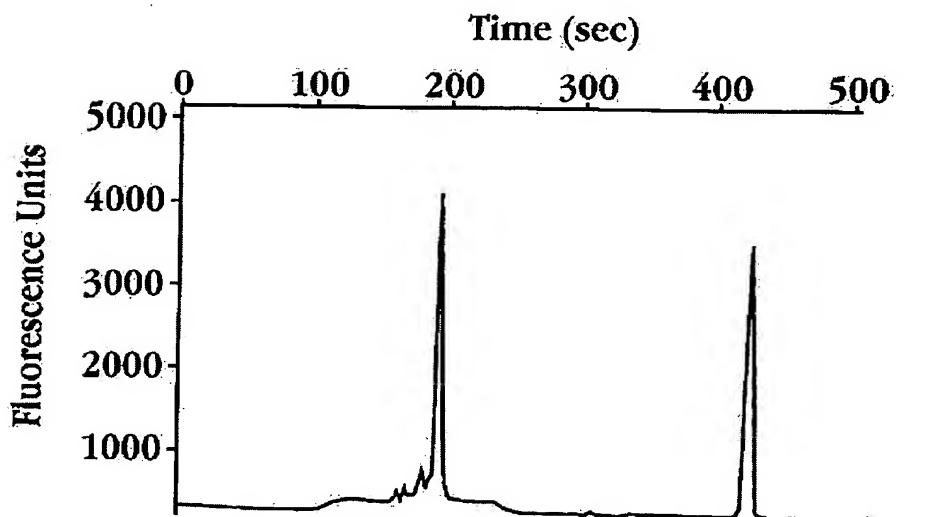
**Fig. 25A**



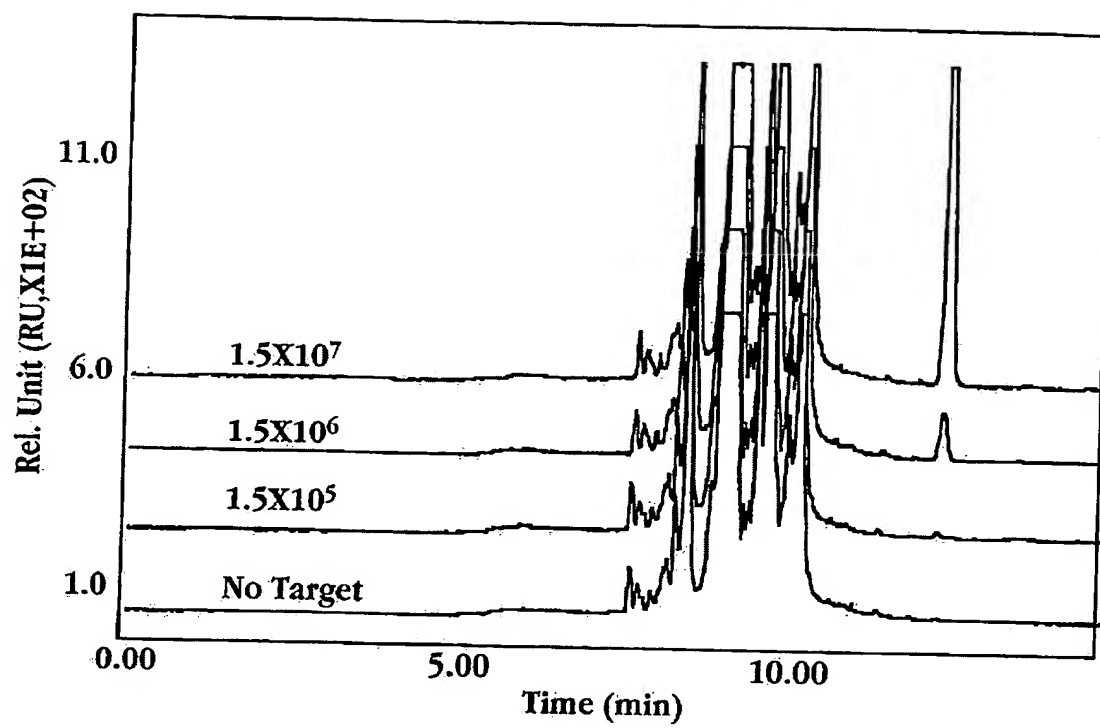
**Fig. 25B**



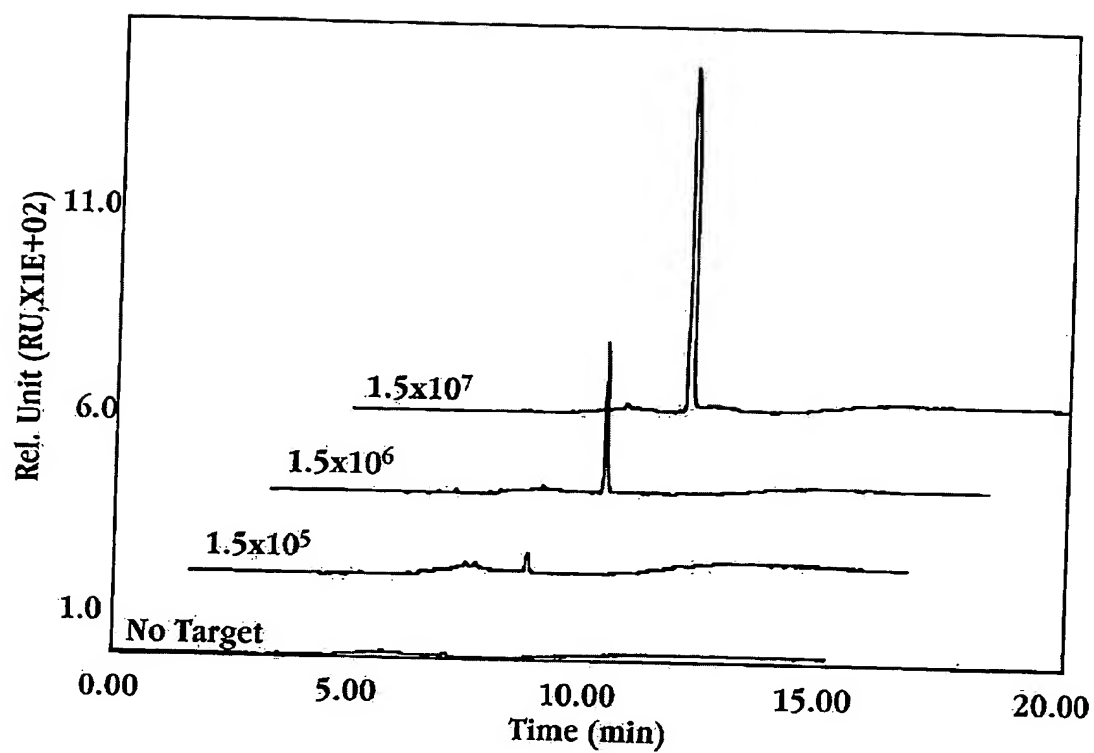
**Fig. 25C**



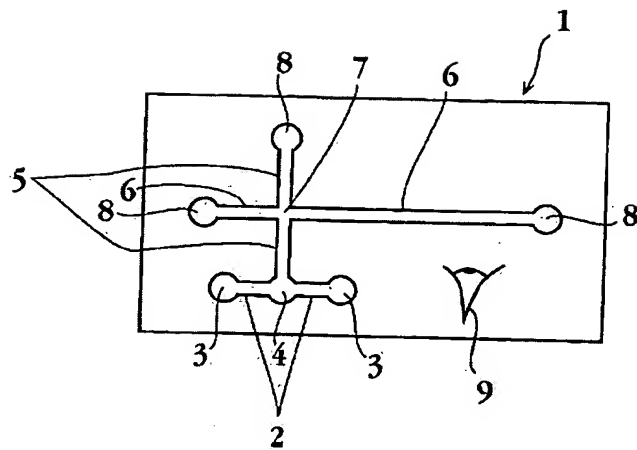
**Fig. 25D**



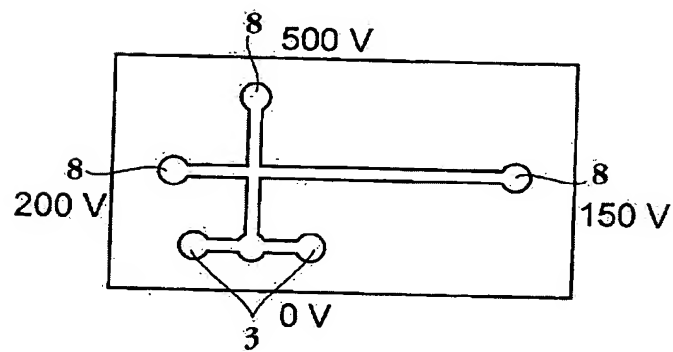
**Fig. 26**



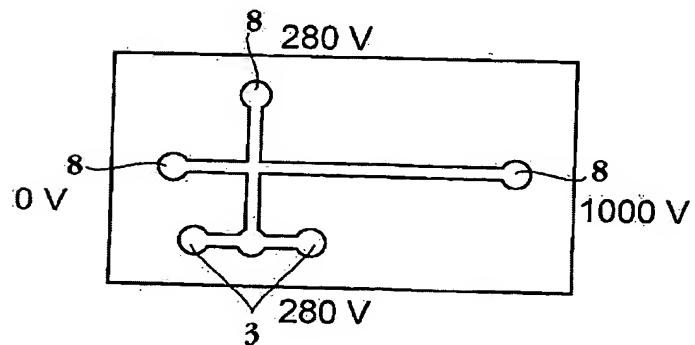
**Fig. 27**



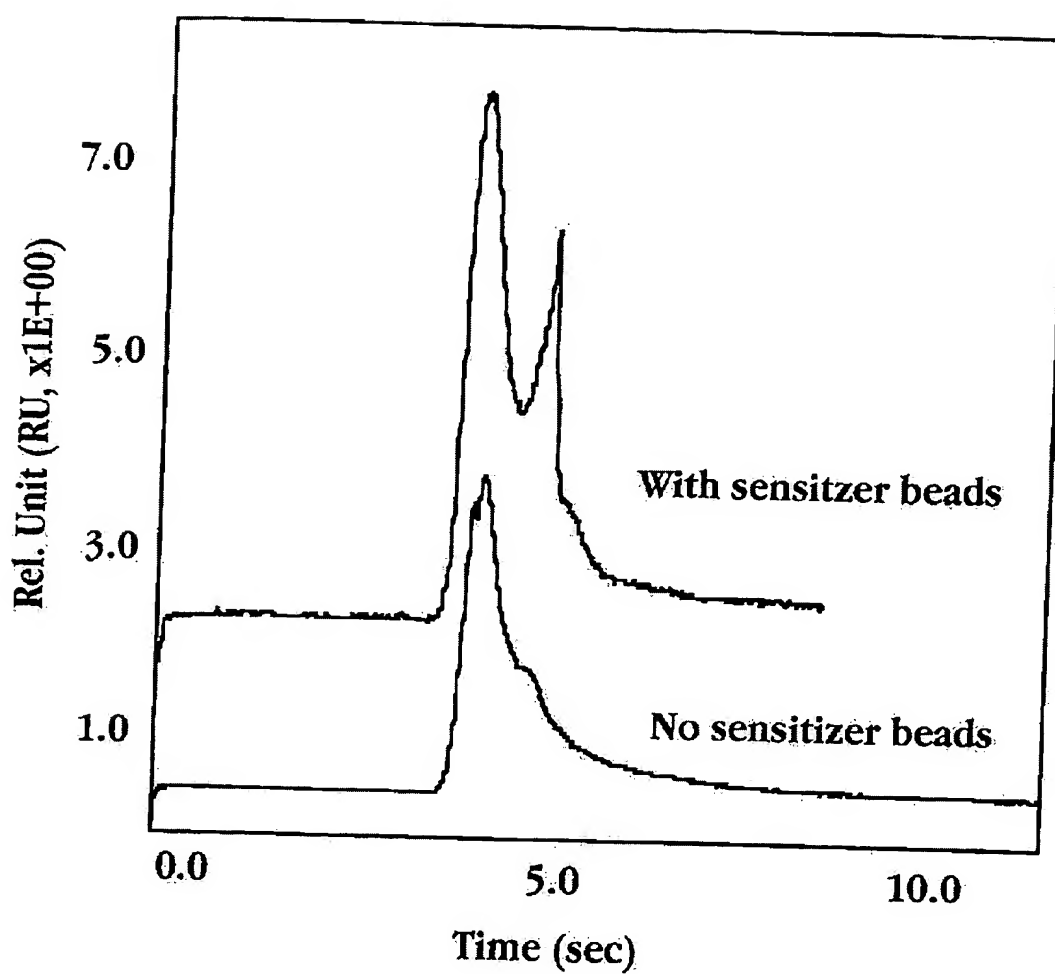
**Fig. 28A**



**Fig. 28B**

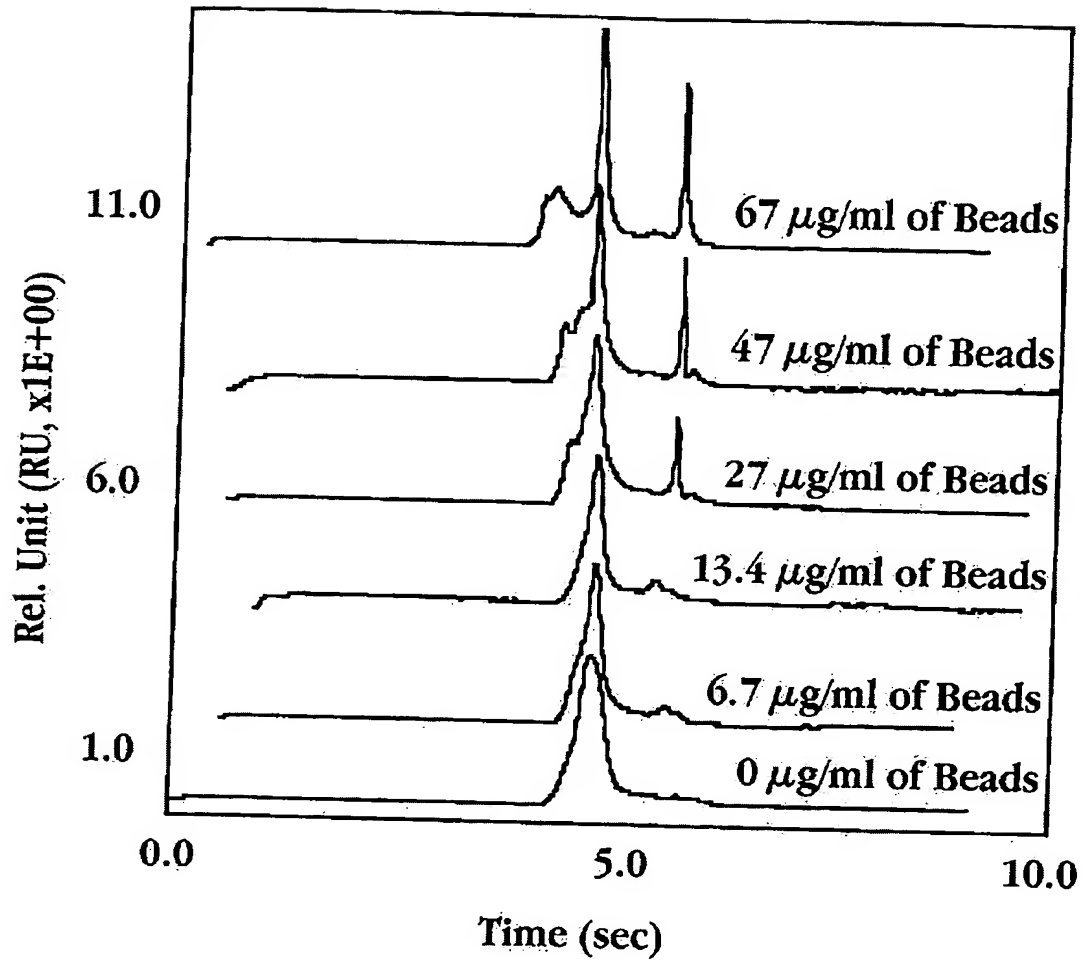


**Fig. 28C**

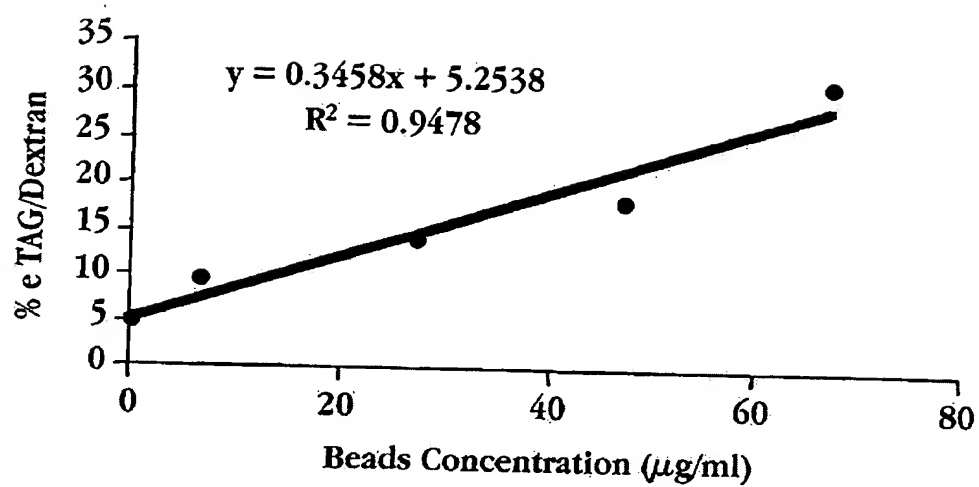


**Fig. 29**

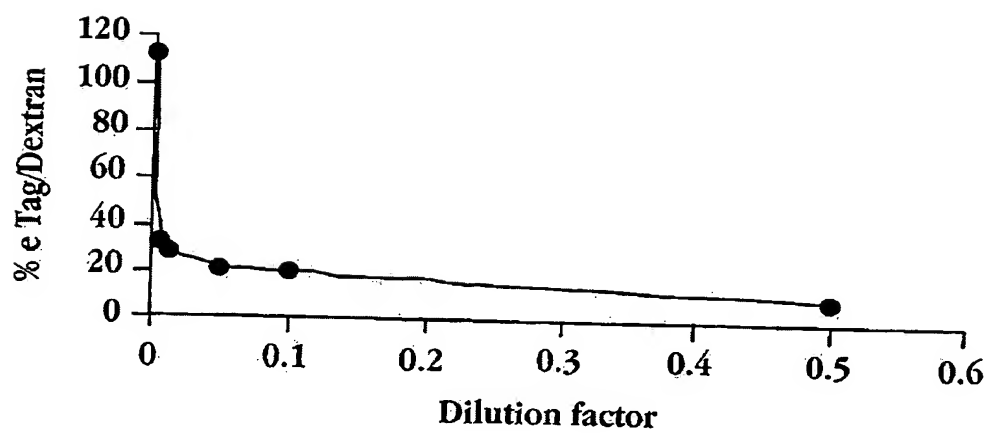




**Fig. 30**



**Fig. 31**



**Fig. 32**

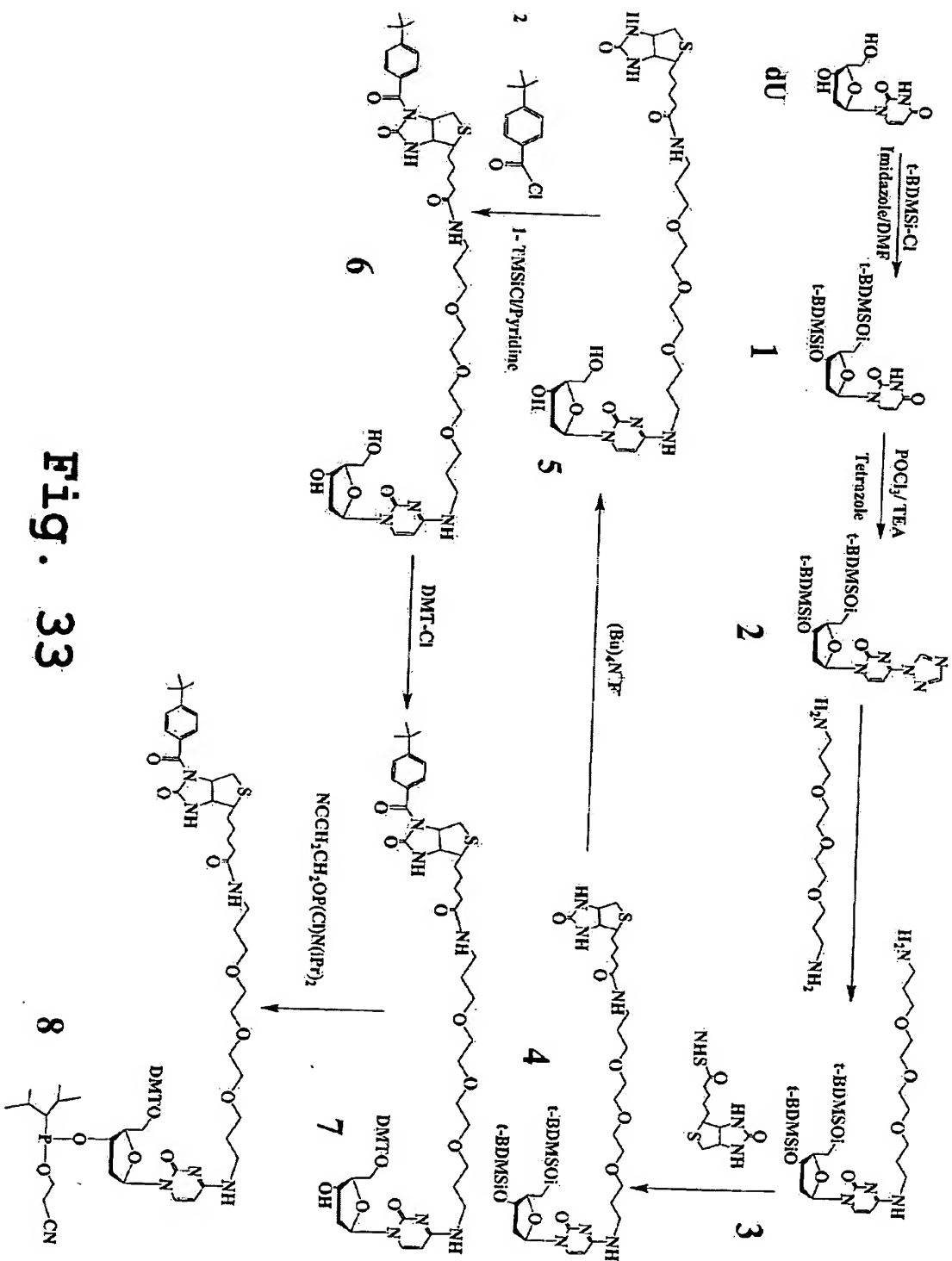


Fig. 33



Fig. 34